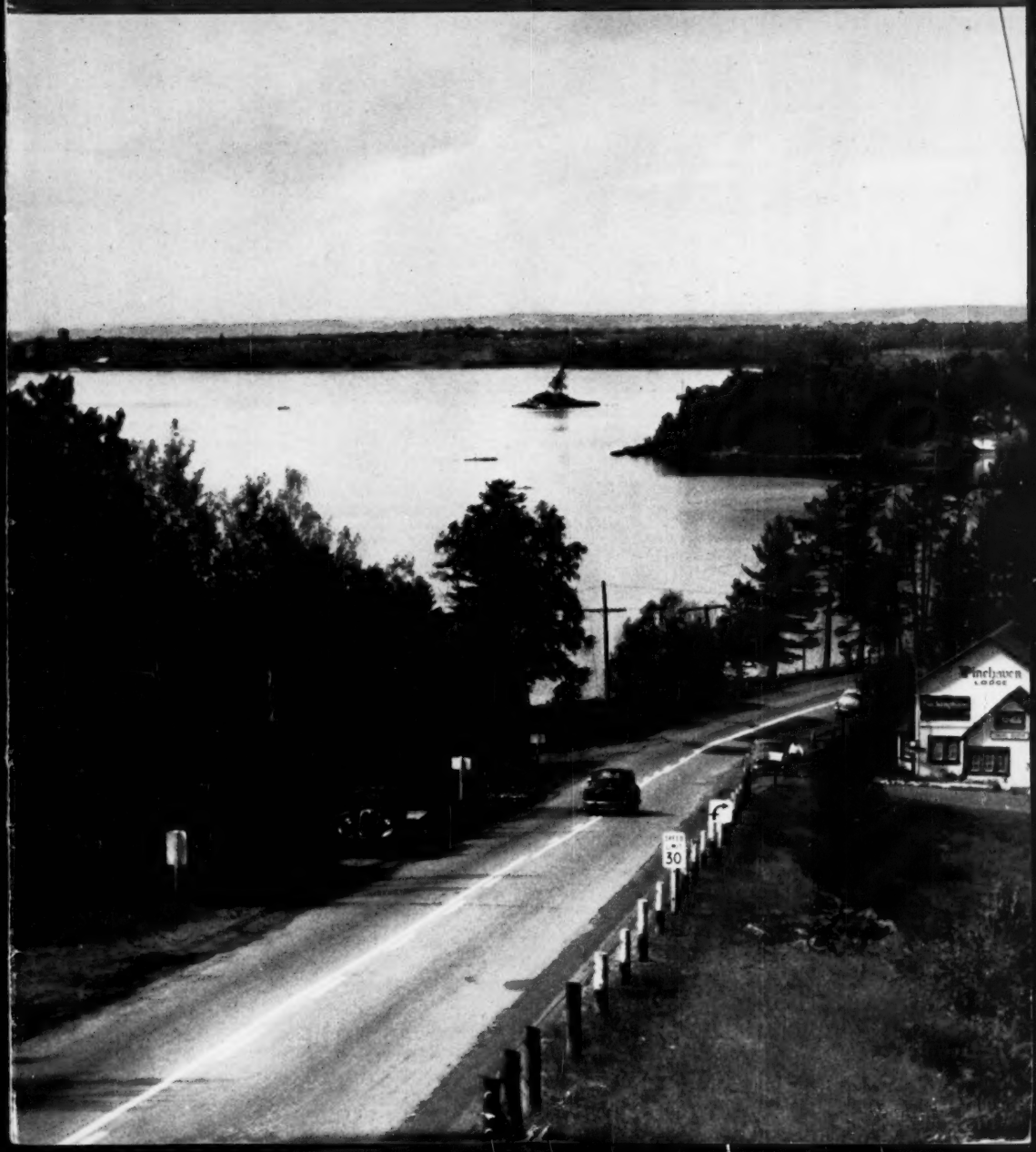
PUBLIC SAFETY

JUNE 1952



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Shown from left to right are Don Frazier (on Servi-Car), Ed Argenbright, L. M. Hall, Doil Wilson, Steve Isbell and W. A. Tompkins — officers of the Roswell Police Department.

THE fact that Roswell used Harley-Davidson equipment exclusively since the beginning of its traffic division in 1928 — *and continues to do so* — is in itself a noteworthy commentary. It means that Roswell's Police Department not only found Harley-Davidsons to be dependable from an operations standpoint, but they provided exceptional efficiency in handling all phases of police duty in traffic control and law enforcement.

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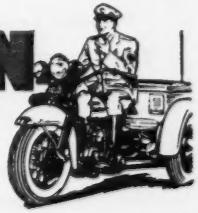
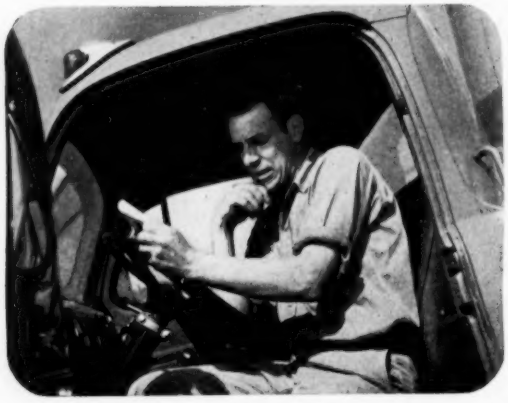


Picture of a man who lost a fight



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PUBLIC SAFETY

JUNE, 1952

VOLUME 41, NUMBER 6

. . . BETWEEN STOPS . . .

THAT'S Vacationland on our cover for June. A beckoning land of leisure where fish bite at the drop of a fly and days are sunny and warm and nights cool and clear. Vacationland is also a country where death lurks in the dip of the road or agony and horrible disfiguring injury wait in the half light of sundown.

The annual trek to Vacationland will mark the end of the trail for hundreds of carefree tourists who have left their brains or commonsense at home. There's no vacation from accident prevention. The price of life, liberty and the pursuit of happiness is still eternal vigilance; either that or a change to a really permanent address—Eternity!

This month's cover photograph was taken by Jim Lehman, genius of the Council's darkroom, near North Bay, Ontario. That's Lake Nipissing on the left. And the lane-happy motorist wheeling toward you up the grade is just the average summer tourist full of high octane ideas and low-grade reaction time.

From now until Labor Day the Grim Reaper will make a full harvest on the nation's highways unless you and I and all the rest of America's motorists and pedestrians play it safe.

Small fry ought to have a place in your plans, too. You can play a big part in the present and the future of these little citizens by showing them good example and by assuming a share of the responsibility for their safety. Make their summer a happy time; you'll enjoy your own vacation all the more for doing so.

Yes, it's a good idea to include a healthy respect for your own skin in your vacation plans. This includes avoiding overexposure to the sun, caution on and in the water, and the ability to remember that you're not 16 any more.

If you heed these words and we do, too. Maybe we'll both be around come yet another trip to Vacationland, next year.

IN THIS ISSUE . . .

The Green Line Story . . . . *Cameron Coffman* 4
America's Traffic Safety Champions 7
Crash Study Can Reduce Chances of Injury . . . . *Hugh DeHaven* 8
The Enforcement Job—Vancouver, B. C. . . . . *W. H. Mulligan* 10
A Capital Job of Traffic Control . *D. J. Faustman* 12
Teen-age Road-e-o . . . . . *Max R. Tyler* 14
Name Sloan Award Winners 17
West Germans Honor Dearborn 18
Training by Telecast . . . . . *R. C. Salisbury* 20
The Traffic Toll . . . . . *H. Gene Miller* 32

Departments

Green Cross News 19
New Publications 26
Coming Events 27
Operation Safety 30
Safety Posters 30
Trade Publications 40

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REG. U. S. PAT. OFF.

Historic Suspension Bridge, foreground, is a main link for the Green Line System between Northern Kentucky and the Green Line's Dixie Terminal building in Cincinnati. Terminal building is entered via ramp from the end of the bridge. Although two other bridges are used by the Green Line System buses, all enter the Terminal. That's Carew Tower in the background.

the GREEN LINE story

By Cameron V. Coffman

Director of Public Relations, the Green Line System

IF YOU could locate a strategic perch in the middle of the Ohio River near Cincinnati, at sundown some working day, and cast your eye at the movement of people across the Ohio to homes in Kentucky (or conversely in the morning), you'd never ask, "What is this Green Line System?" You'd know the answer to this $64 question, firsthand.

Fact is, you have to be a part of the Green Line operation to know its complexity and its importance to the more than 30 towns and communities in the four counties and two states which it serves. But, don't worry about whether you belong. In the best Green Line tradition it will work out all right. For, you're a part of the System if you ride on it or work on it. The customer still rates first place in this metropolitan area and—with perfect Southern courtesy—the company personnel will breathe a fervent Amen to that sentiment.

Maybe we've just unconsciously told the story—the Green Line Story—of what makes this transit company different; its accident prevention program click. But then it's an unusual story however told and no matter who the teller of the tale.

Operationswise, the Green Line System of Northern Kentucky consists of the Cincinnati, Newport & Covington Railway Company and the Dixie Traction Company. It's an old organization, but it's got young and forceful ideas.

Formed 85 years ago by a group of young men who had the vision to see a future in public transportation and the faith to go with the vision, it's still managed by young men, impelled by progressive ideas.

The Green Line links the bustling communities of Newport and Covington and their metropolitan environs with Cincinnati.

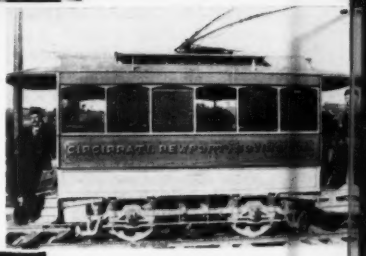
Today's Green Line System is right on the ball safetywise and in other ways. Headed by 40-year old David L. Ringo, who is known to more than 500 employees as "Dave," the system operates 195 vehicles, including 144 motor buses and 36 trolley coaches. Fifteen limousines, 9 airporter buses and six 7-passenger limousines operate between the Greater Cincinnati Airport in Boone County, Ky., and downtown Cincinnati.

If selling the customer a safe, swift method of reaching his destination surely is merchandising mass transportation, that's what the Green Line specializes in.

As we see it, that's what the transit rider wants. Our job is to meet his needs—even to anticipate them. It's quite a job to combine expeditious movement through congested traffic areas with safe operation but that's

Turn Page

Northern Kentucky Transit Safety Board, organized in 1946, represents all departments of the Green Line System. Seated from left are: Roy Moser, board chairman, representing Claims Department; Cecil Carlton, Operations Division, and Lavile Wilhoite, Operations. Standing from left are: Orville Collins, Operations; James B. Sayers and Otto Green, both assistant superintendents of Operations, and Wm. M. Seitz, superintendent of equipment.



It's a far cry from the 1883 model Green Line streetcar at top and the modern airliner at the bottom of this page, but they all tie in to the Green Line's history. Car at top is first electric streetcar to operate in Northern Kentucky. At left is modern transit bus which operates on system now. Airporters and limousines below are also part of Green Line.

Talking shop. Dick Healy, Green Line safety counselor, right, has no desk job, roves the system looking for accident prevention angles and ideas. Looks like Shop Foreman Chris Sticklin and Blacksmith George Dehner (center) have come up with one.

-GREEN LINE-

where we separate the men from the boys. And Green Line personnel rate the designation "Transit MAN."

You wouldn't pick our service area if you were out to rack up any safety records; it's too congested. For the Green Line operates in dense metropolitan traffic and more than 90 per cent of our routes are over streets that accommodate only two lanes of traffic with parking on each side.

All Green Line routes, with one exception, funnel into four bridges spanning the Ohio River. Two bridges across a tributary are used principally by us. Operations into Cincinnati are centered in an enclosed terminal with two levels, the upper serving Kenton and Boone Counties and the lower one serving Campbell County in Kentucky.

The Green Line youth movement began to pay off about six years ago. To get an idea of how it came about, let's look at some company personnel and some company history.

Dave Ringo has surrounded himself with a youthful staff of able assistants, headed by James S. Osborne, assistant general manager. Others are, Joe V. Garvey, superintendent of operations; Payson R. Whitney, director of property and engineering; William Seitz, superintendent of equipment; Charles D. Clifford, controller; Karl Osterman, office manager; Houston Ishmael, traffic engineer; Charles C. Lee, sales director, and Richard D. Healy, safety counselor.

This group averages several years under the 40-year mark, but all qualify as leaders in the transit industry.

The Safety Board Is Born

During negotiations of labor contracts in the years prior to 1946, the representatives of the Amalgamated Association and The Green Line came to the conclusion that money spent for accidents was pure wastefulness, and that any reduction in this area would mean money to the good for all concerned. It was also recognized by both union and company that safety organization and safety results could only be achieved by the full cooperation of all concerned. As a result of these conclusions a safety in-

To Page 24

Dick Healy, left, Green Lines safety counselor, accepts NSC trophy from Leslie J. Sorenson, chairman, Chicago Street Traffic Commission. Both the Cincinnati, Newport & Covington Railway Company and the Dixie Traction Co. took first place awards in the 1948-49 NSC Transit Employee Safety Contest.

A correctly adjusted rear vision mirror is another one of "those little things" that has aided the Green Line System in establishing an outstanding safety record since joining forces with the National Safety Council back in 1947.

A spotless windshield is a basic "must" in the rule books of the Northern Kentucky Transit Safety Board. Plenty of "elbow grease" is applied to keep them spotless, improve visibility.

A flat tire does nothing to improve transit service or the operator's morale. Green Line operators must be able to recognize when a tire needs air. Here Student Jim Brown is getting a lesson from his instructor, Jim Lucas.

America's Traffic Safety Champions

COLORADO and SHAKER HEIGHTS, Ohio, today were named grand award winners in the 1951 National Traffic Safety Contest conducted by the National Safety Council.

Five other states and 27 other cities won divisional honors in the contest. In addition, various special awards for outstanding achievement in traffic accident prevention were voted by the judges.

All 48 states and 677 cities participated in the contest, which covered the calendar year of 1951. In addition, 601 municipalities with populations between 5,000 and 10,000 were cited in the honor roll section of the contest for going through 1951 without a traffic fatality.

The contest reports are part of the National Inventory of Traffic Safety Activities and constitute one of the yardsticks of traffic safety performance for the nation. Information from the contest will be used as a basis for the annual progress report of the President's Highway Safety Conference.

The complete list of states and cities which won regular awards in the 1951 contest follows:

National Grand Award for states—Colorado.

National Grand Award for cities—Shaker Heights, Ohio.

STATES

Eastern States

First place ..... Massachusetts
Second place ..... Delaware
Third place ..... Connecticut

Southern States

(No first, second or third place awards)
Honorable Mention: West Virginia

Midwestern States

(No first, second or third place awards)
Honorable Mention: Minnesota

Western States

First place ..... Colorado
Second place ..... Washington
(No third place award)

Largest States

First place ..... Pennsylvania
(No second or third place awards)

Honorable Mention: Ohio

CITIES

Group I (1,000,000 and over)

First place ..... Los Angeles, Calif.
(No second or third place awards)

Group II (750,000-1,000,000)

First place ..... Washington, D. C.
(No second or third place awards)

Group III (500,000-750,000)

First place ..... Minneapolis, Minn.
Second place ..... Pittsburgh, Pa.
(No third place award)

Group IV (350,000-500,000)

First place ..... Seattle, Wash.
Second place ..... Columbus, Ohio
Third place ..... Memphis, Tenn.

Group V (200,000-350,000)

First place ..... Providence, R. I. / Rochester, N. Y. } tie
Second place ..... Akron, Ohio
Third place ..... Syracuse, N. Y.

Group VI (100,000-200,000)

First place ..... South Bend, Ind. / Berkeley, Calif. } tie
Second place ..... Pasadena, Calif.
Third place ..... Sacramento, Calif.

Group VII (50,000-100,000)

First place ..... Kalamazoo, Mich.
Second place ..... Lubbock, Tex.
Third place ..... Racine, Wis. / Cedar Rapids, Ia. } tie

Group VIII (25,000-50,000)

First place ..... Shaker Heights, Ohio
Second place ..... Watertown, N. Y.
Third place ..... Sheboygan, Wis.

Group IX (10,000-25,000)

First place ..... Stillwater, Okla.
Second place ..... Rocky River, Ohio / Birmingham, Mich. } tie
Third place ..... Chiskasha, Okla. / Beaver Dam, Wis. / Wilmette, Ill. } tie

For outstanding achievement among states in the various activity sections of the contest (although the total score for some states was not sufficient to win a major award) the following awards were voted:

ACCIDENT RECORDS: Eastern states, Connecticut; Southern states, Virginia; Midwestern states, Minnesota; Western states, Colorado; and among the largest states, Indiana.

DRIVER LICENSING: Eastern states, Massachusetts, Connecticut, Maine; Southern states, North Carolina; Midwestern states, Oklahoma; Western states, Oregon, Washington, Colorado; and among the largest states, Pennsylvania.

SCHOOL SAFETY: Eastern states, Massachusets; Southern states, Virginia; Midwestern states, Oklahoma and Kansas; Western states, Washington; and among the largest states, Pennsylvania.

PUBLIC INFORMATION: Eastern states, Massachusetts and Maryland; Southern states, Virginia; Midwestern states, Kansas and Wisconsin; Western states, Colorado; and among the largest states, Michigan and Ohio.

SAFETY ORGANIZATION: Eastern states, Massachusetts, Delaware, Connecticut; Southern states, Florida; Midwestern states, Minnesota; Western states, Colorado; and among the largest states, Ohio.

All eligible cities in the following seven states participated in the 1951 contest. Accordingly, the states were voted city participation achievement awards.

Massachusetts (88 cities); Connecticut (44 cities); Wisconsin (34 cities); Iowa (23 cities); Minnesota (22 cities); Mississippi (15 cities); Delaware (1 city).

In addition to the foregoing awards, recognition was given 12 states for their activities in periodic motor vehicle inspection. They were Massachusetts, Delaware, New Jersey, Maine, New Hampshire, Vermont, Virginia, Colorado, Utah, New Mexico, Pennsylvania and Texas.

For outstanding achievement among cities in the various activity sections of the contest, although total score by some cities was not sufficient to win a major award:

ACCIDENT RECORDS

Over 1,000,000 ..... Los Angeles, Calif.
750,000-1,000,000 ..... Cleveland, Ohio / Washington, D. C.
500,000-750,000 ..... Buffalo, N. Y.
350,000-500,000 ..... Seattle, Wash.
200,000-350,000 ..... Syracuse, N. Y.
100,000-200,000 ..... Sacramento, Calif.
50,000-100,000 ..... Jackson, Mich.
25,000-50,000 ..... Belmont, Mass. / Manitowoc, Wis.
10,000-25,000 ..... Wilmette, Ill. / Birmingham, Mich.

SCHOOL SAFETY

Over 1,000,000 ..... Los Angeles, Calif.
750,000-1,000,000 ..... San Francisco, Calif. / Cleveland, Ohio
500,000-750,000 ..... Cincinnati, Ohio
350,000-500,000 ..... Dallas, Tex.
200,000-350,000 ..... Toledo, Ohio / Syracuse, N. Y. / Oklahoma City, Okla.
100,000-200,000 ..... Tampa, Fla. / Duluth, Minn.
50,000-100,000 ..... Richmond, Calif.
25,000-50,000 ..... Mason City, Ia.
10,000-25,000 ..... Milford, Mass.

PUBLIC INFORMATION

Over 1,000,000 ..... Detroit, Mich.
750,000-1,000,000 ..... Cleveland, Ohio
500,000-750,000 ..... Pittsburgh, Pa.
350,000-500,000 ..... Dallas, Tex. / Denver, Colo.
200,000-350,000 ..... Atlanta, Ga.
100,000-200,000 ..... Pasadena, Calif.
50,000-100,000 ..... Lansing, Mich.
25,000-50,000 ..... Dubuque, Ia.
10,000-25,000 ..... Garden City, Kans.

To Page 40

Crash Study Can Reduce Chances of Injury

By Hugh DeHaven

Director, Crash Injury Research, Cornell University Medical College

Packaging technique needed in car design to increase chances of survival in motor vehicle collisions.

IN ORDER to work out a program for the prevention of traffic accidents, the causes of accidents must be collected and studied. Similarily, we must develop usable data on the causes of injuries in accidents, if we are to engineer safety features in motor cars which will reduce the chances of injuries in crashes.

Efforts to increase "crashworthiness" and provide greater "crash safety" by the improvement of details in aircraft and automobiles are not new. In the automotive field, shatterproof glass, turret tops and other details in design worked out by automobile engineers have saved thousands of lives and spared inestimable numbers of injuries.

In order to judge the potential value of engineering efforts to cut causes of injury in the automotive field, we should consider some figures on what packaging engineers probably would call "the spoilage and damage of people in transit." Despite everything that has been done to prevent accidents, a total of 35,000 people were killed in motor vehicle accidents in 1950; this figure includes pedestrians as well as people killed in buses, taxis, trucks, etc. Of the 35,000 killed, the National Safety Council estimates that 17,600 were killed in passenger cars alone. In addition to the 17,600 persons killed, approximately 685,000 persons sustained crash-injuries in passenger automobiles. I understand that the National Safety Council estimates that the total cost of crash-injuries in all motor vehicles that year was $1,850,000,000; thus the proportional loss for medical payments, insurance costs and value of services lost to the nation for persons killed and injured in passenger cars last year was nearly one billion, 100 million dollars.

Digest of a paper issued by the Crash Injury Research Project, working under Navy Contract N6onr 264-12 at Cornell University Medical College, 1300 York Ave., New York 21. The project is supported by funds from the U. S. Departments of the Navy, Army and Air Force, and the Civil Aeronautics Administration.

The author is research associate, Department of Public Health and Preventive Medicine, Cornell University Medical College. First reports on the research project were contained in an article, "Cushion That Impact!" in PUBLIC SAFETY for May, 1950.

Of course, some of the 17,600 persons killed and some of the persons injured sustained their injuries in passenger car accidents which were so severe that no reasonable alteration of automobile structures would have modified the seriousness of their injuries. Preliminary studies by the Crash Injury Research Division of the Indiana State Police indicate, however, that only 16 per cent of fatal passenger car accidents in rural districts of Indiana were so hopelessly severe as to justify classification as "non-survivable"; an additional 18 per cent were sufficiently sever to make such classification debatable. The remaining 66 per cent of fatal Indiana accidents in rural districts (where traffic speeds usually are high) were classed by experienced accident investigators as survivable. In many of the 66 per cent of fatal cases, other people in the same car either escaped uninjured or sustained injuries which normally would not endanger their lives. Obviously in these cases crash force alone was not the killer.

Further analysis of Indiana State Police data discloses that about half the fatal, rural accidents occurred at relatively moderate speeds: 21 per cent occurred at estimated speeds of 30 mph or less, and a total of 45 per cent occurred at speeds of less than 40 miles per hour. In considering the 66 per cent of fatal cases which the Indiana State Police classed as survivable and the 45 per cent of fatal accidents which occurred in 40 mph or less, we should bear in mind the fact that stunt drivers repeatedly crash cars head-on at 35 mph without sustaining any injury. Actually without knowing it, these professional drivers who elect to earn their living by avoiding injury in daily crashes, apply practical principles which are used by every packaging engineer to protect goods in transit.

The stunt driver, of course, does not design or specially rework a car in order to give himself safety in a 35 mile an hour impact. If he did, the car would probably protect him at even higher impact speeds. However, like a packaging engineer who is creating or selecting a package, he calculates predetermined conditions for which the package is suitable. As a result of long experience gained in previous crashes, he estimates that the passenger compartment will remain substantially intact in a 35 mph head-on impact.

In reaching this conclusion, a stunt driver fulfills the first principle followed by packaging engineers: The package should not open up and spill its contents and should not collapse under reasonable or expected conditions of force and thereby expose objects inside it to damage.

The second principle considered by packaging engineers is closely related to the first: Packaging structures which shield the inner container must not be made of brittle or frail materials; they

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The man who would keep accident free must have seven senses, not five. They include the normal category of touch, taste, sight, smell and hearing, with two additional ones—horse and common.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

should resist force by yielding and absorbing energy applied to the outer container so as to cushion and distribute impact and thereby protect the inner container. Either by good fortune or good design this second packaging principle is represented in most protective structures ahead of, and behind, passenger compartments in automobiles as well as in small planes.

The third principle of good packaging provides that articles contained in the package should be held and immobilized inside the outer structure by what packaging engineers call interior packaging. This interior packaging is an extremely important part of the overall design, for it prevents movement and resultant damage from impact against the inside of the package iteself.

The driver thereby avoids being thrown against dangerous structures inside the car during the crash deceleration—and simultaneously he takes full advantage of the cushioning effects provided by collapse of forward structures. Actually the stunt driver creates for himself the type of protection now provided for personnel in large military transport planes in which the seats are faced rearward so as to fully support the head and body. Further, while thus protecting himself, the stunt driver is also avoiding dangers combatted by the 4th packaging principle.

This fourth packaging principle says that the wadding, blocks or means for holding an object inside a shipping container must transmit forces to the strongest parts of the contained objects. This principle certainly is not complicated; it simply means that packaging engineers would not ship a valuable piece of furniture inside a crate and try to hold it only by the legs or by an ornament at the top. It would be held in a way which would transmit unusual loads to the strongest part of the framework. This principle governs placement of safety belts in aircraft so as to transmit crash loads to strong skeletal structures in the pelvic area of the human body.

Although we do not ordinarily think about them, these four basic packaging concepts amount, in fact, to a statement of practicalities. Most of us—even though we are not packaging engineers—apply them to the best of our ability when we pack or ship things. We would not, for example, ship a fragile object loose inside a barrel. If an object was fragile and easily damaged, we would endeavor to provide some arrangement to hold it from moving and smashing itself against the inside of a shipping container, either by packing something around it, or by supplying some other means for immobilizing it.

As might be expected, the most frequent types of injury in survivable aircraft and automobile accidents are fractures of the skull, lesions of the brain, smashing of facial bones and other dangerous or disability-producing injuries of the head. It is difficult for engineers and laymen to fully appreciate the fact that the head weighs as much as a ten pound sledge hammer, and packs the same terrific energy when it strikes a dangerous object at 40-50 mph. If the head hits a solid structure which will not dent or yield at such speeds, the head itself must yield, and crushing injuries of the skull and brain cannot be avoided. But if the head hits a light, ductile surface at such speeds, even a fairly strong metal surface will dent and bend and absorb the energy of the blow, thereby modifying the danger of skull fracture and concussion.

The ability of common structures to protect the head at impact velocities of 40-50 mph was observed and reported in 1942 in an analysis of survivals after free falls from heights of 50 to 150 feet*; in most of these cases various types of structure—automobiles, metal ventilators, wooden rooftops and hard ground — were struck by the head and body at speeds of 40-50 mph without causing skull fracture, loss of consciousness or subsequent evidences of concussion.

*"Mechanical Analysis of Survival in Falls from Heights of 50 to 150 Feet" by Hugh De Haven (War Medicine, July, 1942).

To Page 28

THE ENFORCEMENT JOB—

THE police of every large city on the North American continent today are facing a problem in the matter of traffic control which, in the majority of instances, has taken precedence over the many other problems with which the police are concerned and surpasses even that of crime control.

Possibly one reason that this traffic problem has been allowed to develop to the point it has, is because until fairly recently police authorities themselves would not, or could not, recognize it as a problem. Police authorities, in making disposition of the men and equipment at their command, would detail them first of all to such other activities as criminal investigation, juvenile delinquency, vice, narcotics, and so on, and if any men and equipment remained available after these assignments were made, the requirements of the Traffic Division were considered.

The police authorities were not wholly to blame in this. The public generally was more concerned over crime, juvenile delinquency, vice and narcotics than the traffic control problem, therefore, a police chief was only "playing it smart" in directing the energies and resources of his department to countering these respective urgent problems.

But the traffic problem could not be forever relegated to the background. As cities developed and their populations increased, so too did the traffic problem. The increasing number of private cars, commercial vehicles and public transit vehicles traveling over streets (which in many cases were never originally designed to handle such a large volume of traffic) resulted in congestion which at times almost amounted to confusion.

This confusion caused traffic accidents to rise and the increasing toll of deaths, injuries and damage arising from these accidents has reached the stage where, today, public demand has made the traffic control problem the major one facing civic authorities.

The problem as it developed in my own City of Vancouver is typical of so many other cities that PUBLIC SAFETY readers might like to read something about it and of the steps which are being taken to meet it.

Our traffic problem in Vancouver originated in the depression years prior to World War II. In this period, with its need for economy, public funds were not available for the construction of new roads which a steadily growing city even then demanded, and repairs to existing roads were held to a minimum. Toward the end of the 30's as the city's financial condition improved, plans were made for new roads construction and a program of existing road repairs and street widening was laid out.

Before this badly needed work could be undertaken, war broke out again and the program stalled. Once again there was the need for economy, and apart from this, the required equipment was not available. Traffic movement itself was reduced. Gasoline and tires were rationed. New cars for other than use in essential war work were practically unobtainable, and there was little driving for pleasure.

Then came war's end. Those who had worked and saved all through the war years sought cars. Those who came back from overseas looked on driving as one of the pleasures they had missed. Unlimited gasoline was available, tires were no longer conserved. Commercial firms were now able to secure trucks, and within a relatively short period of time, new and faster fleets for freight and deliveries were operating over our city streets. Our population total, which some people thought might drop at the conclusion of the war, moved ahead by leaps and bounds. We earned the name of Canada's fastest growing city.

Engineering improvements, such as installation of traffic control signals, road widening and repairs, were hopelessly outpaced by the rapid advance in traffic volume.

To add to the difficulties of control, the public transportation company, faced with the problem of providing a speedier and expanded service turned to the trolley bus as the solution, and many of our main streets which had formerly carried street car tracks, had to be torn up and repaved to take the trolley buses. It is not hard to visualize the congestion which occurred. (I might say that this program of conversion, marked by the appearance of the first trolley bus on our streets in July, 1948, will not be completed for another year.)

Synchronized traffic control signals are being installed according to plan following detailed study by the traffic engineer, and at the present time more than 80 intersections are signalized. Coincident with the street repaving program necessitated by the switch from street cars to trolley buses, other ipmrovements such as

The Author

Conversion of B C Electric Railway routes from streetcar to trolley bus called for track removal and repaving program

which was shared in jointly by city and utility. Enforcement had to cope with traffic before, during and after the changeover.

VANCOUVER, B. C.

By Walter H. Mulligan

Chief Constable, City of Vancouver, B. C.

street widening and setting back of curbs at intersections are gradually being effected.

The location of bus loading zones was carefully studied, and the zones were established where they would prove least inconvenient to other moving vehicular traffic. At some intersections, bus loading zones are nearside, at others they have been located farside. At some of the busiest intersections, street car and bus stops for the purpose of loading and unloading have been eliminated entirely.

There was some objection at first on the part of patrons of the public transportation system at having to walk an extra block, but it was not long before the traveling public became accustomed to the changes and there is no doubt but that these eliminations have reduced the congestion which formerly prevailed at the intersections affected.

Street taxi stands which had been in existence for many years were either abolished altogether or assigned to new locations. To help relieve traffic congestion during the morning and evening rush hours, many sections of our downtown streets have been zoned as "No Stopping" areas during those rush hours.

But engineering alone, of course, cannot solve the traffic problem. Traffic control signals are of little value if they are disregarded by motorists and pedestrians. Wider streets afford little relief if the additional space is cluttered up with parked vehicles or nullified by the bad driving habits of some motorists. One parked car in a "No Stopping" area can throw a whole line of moving traffic into confusion and add greatly to the accident hazard, and every city has its quota of motorists who think that traffic regulations apply only to the "other fellows"—not to themselves.

With the introduction of many new regulations framed with the object of facilitating the movement of traffic and reducing accident hazards, came the necessity for educating the public, both motorists and pedestrians, in the application of these regulations and in traffic safety principles generally.

Such organizations as the Vancouver Traffic and Safety Council, the Vancouver Junior Chamber of Commerce, the Vancouver School Board, and commercial groups such as the Automotive Transport Association of British Columbia, the B. C. Electric Railway Company which operates the public transportation system, the Crone Storage Company, and the many other large commercial fleet operators are deserving of praise for the manner in which they set to work on educational programs aimed at making our City of Vancouver a safer place in which to live. Much of the traffic safety consciousness existing in our city today is attributable to the efforts of these groups.

To meet the challenge presented by our traffic control problem and the rising traffic accident rate through enforcement measures, one of the first steps to be taken was to increase the personnel and equipment of our Traffic Division.

At the beginning of 1947, the total strength of our Traffic Division was 58 officers and men, and their equipment consisted of 17 motorcycles, two 3-wheel servi-cars, and 6 autos. Today, the Division has a strength of 104 officers and men, equipped with 12 motorcycles, four 3-wheel servicars, and 17 autos. Readers will note the reduction in the number of motorcycles and the increase in the number of autos. It has been our experience that more effective enforcement could be obtained by using coupes in place of motorcycles, there being periods when inclement weather precludes the operation of motorcycles.

To be effective, any enforcement

To Page 36

Sacramento, California, moves traffic volumes safely with

A Capital Job of TRAFFIC CONTROL

By D. J. Faustman
Traffic Engineer, City of Sacramento, Calif.

SACRAMENTO is more than California's capital city. It is one of the West's great market places. The city's progress from its beginning has been marked by sound progress and transportation has played a potent part in its history. It was both jump-off spot and road's end for the Pony Express, and the western portion of the first transcontinental railroad was born here. Small wonder then that Sacramento should call for a capital job of traffic control.

In spite of a motor vehicle population that has been increasing at the rate of more than 11,000 vehicles per year since 1945, traffic congestion has been minimized in Sacramento by careful application of established traffic engineering principles. Of course no program of engineering can be effective by itself, and the traffic division of the police department through an intensive program of selective enforcement has ably upheld its end of the three E's.

Two of the most effective traffic engineering measures have been one-way streets, and intersection treatment, while many minor improvements have been achieved through the elimination of view obstructions, revision of traffic signal installations, and a greatly increased street-painting program. The first step in alleviating downtown parking congestion has been taken with the completion of two 300-car parking lots scheduled for early spring.

Problems facing the traffic engineer in Sacramento are caused to a large extent by the topography and population patterns as well as a number of other lesser factors. The city, which has a population of 137,572, has grown only in two directions—east and south—from its first settlement near the junction of the American and Sacramento Rivers. As a result, the business district is concentrated in the northwest corner of the city while the residential area stretches several miles east and south.

Since 1945, as has been the case with many other cities, the principal residential development has been outside the limits of the city proper within a radius of about 15 miles of the business district. This metropolitan development outside the city has been confined chiefly to an area northeast of the city, and to a somewhat lesser degree in an area south of the city. The

The author has been the Traffic Engineer for the City of Sacramento, California, since 1948. Previously he was Assistant Planning and Traffic Engineer for Sacramento and Transportation Engineer for the California Public Utilities Commission. During 1937-8 he studied at the Bureau of Street Traffic Research at Harvard University and during the war was engaged in research and development of traffic equipment for the Traffic Control Branch of the Engineer Board at Fort Belvoir, Virginia.

fact that most residents of the metropolitan area to the northeast are restricted to two crossings of the American River and four crossings of the Southern Pacific railroad in order to reach the business district results in a high concentration of traffic and emphasizes the need for keeping the approaches to these crossings free and clear within the city.

As the capital city of California, Sacramento has been experiencing the unusual rapid growth which is common to all parts of the state. Within the past 10 years the metropolitan area population outside the city has increased 117 per cent. Because there is no adequate mass transportation system serving the metropolitan area, the use of the private automobile for all types of transportation is by far the most prevalent.

Traffic volume peaks are noted both for their magnitude and for their short duration. The principal employer is the state government, with something over 12,000 employees, with offices situated at the fringe of the business district, within the most congested area of the city. Since there is very little staggering of hours within the state government, or by the majority of other employers, traffic volumes on some arterials rise as high as 15 per cent of the 24-hour volume during the hour between 7 and 8 a.m., and 25 per cent of the 24-hour volume during the hour between 5 and 6 p.m.

Sacramento's introduction to the one-way street came more or less accidentally in 1948. At that time it became necessary to close one of the two railroad underpasses serving traffic between the city and the suburban residential area to the northeast for a 13-month period of reconstruction. In order to keep traffic moving through the one remaining 4-lane underpass, it was decided to institute a system of one-way streets leading to and from the underpass. This system, although it was far from being either complete or entirely adequate, proved to be so efficient in handling traffic volumes (which ran as high as 47,000 vehicles per day) that it gained the wholehearted approval of the majority of the area's motorists. It was not, however, as popular with the merchants and residents who occupied property abutting on the one-way streets. For this reason, the system was abandoned after about a year of operation when the reconstructed underpass was ready for traffic.

Meantime, of course, traffic volumes were steadily increasing. By the time the temporary one-way street system had reverted to two-way traffic, the volume had increased from 21,000 to about 26,000 vehicles per 24 hours through one underpass. With two-directional movement on a 48-foot street width, this resulted in intolerable congestion, and both motorists and property owners insisted that relief be provided immediately.

Our traffic engineering staff undertook a detailed study of the situation and explored all possible solutions, including turn prohibitions, parking prohibitions, street widening, and one-way streets. The final conclusion, proved by hard facts, was that the use of one-way streets would not only cost about 2 per cent of an equivalent street widening, but would also be more than twice as effective in expediting traffic movement. The City Council accepted the recommendation of the traffic engineer about eight months after the abandonment of the temporary one-way street system, and in June, 1950, the first of five pairs of one-way streets was put into operation.

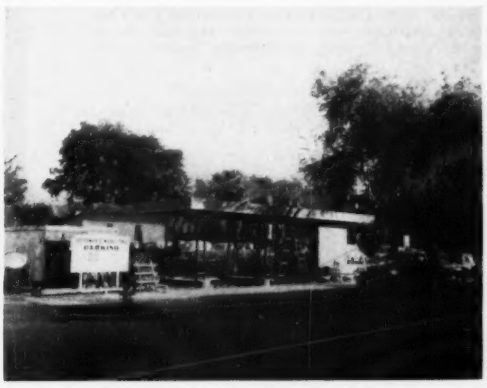
The five pairs constitute an integrated arterial system capable of carrying traffic into and out of the central district of the city with the least possible congestion. The last pair of this system was placed in operation in November, 1950.

The success of the system was immediate and was so striking that both the Retail Merchants Association and the Chamber of Commerce urged the City Council to undertake immediate study leading to the extension of the system. Another study, similar in all respects to the first, was undertaken by the traffic engineer, and resulted in the recommendation for the establishment of two additional pairs of one-way streets and the extension of two others. These recommendations again were approved by the City Council and are being placed in effect as rapidly as the availability of materials permits.

On most arterials in Sacramento there is neither sufficient differential in directional traffic flow nor sufficient street width to justify wide spread use of the directional flow switch to accommodate peak traffic loads. In one instance, however, changing the direc-

To Page 38

Clearing sites of off-street parking lots was a major operation which involved four demolition contracts and two-month's time. Many old residences were removed to new locations, thus causing added problems for harried traffic officials.



Parking lot nears completion. Although site clearing and development has been underway and parking space limited, nearly 80,000 cars were parked since site was acquired in August, 1951, and January, 1952. Parking lots are paying off.

Jim York, 17-year-old winner of the Britton Road-e-o, got more of a bang out of winning his title than any hotshot driver at the Indianapolis Speedway.

The rains came, but John Ingram (left), executive secretary of the Oklahoma City Jaycees, and Jud Veasy, general chairman, were out bright and early to put up the signs identifying the Teen-age Road-e-o course.

A group of teen-age contestants tour the course and are given an explanation of each test before competition.

Te

By Max E. Tyler
Director, National Teen-age Road-e-o
U. S. Junior Chamber of Commerce

Members of the United States Junior Chamber of Commerce are teaming up with teen-agers in a nationwide driving contest to test the skills and attitudes of youngsters whose top ambition is to get to use the family car more often.

Mental gymnastics and furrowed brows marked the written test shown here as it was given to typical group of teen-agers. Quiz tested road knowledge and attitudes.

Teen-age ROAD-E-O

"THERE goes another bunch of those reckless teen-age drivers!" Be careful now—don't make a statement like that unless you're convinced that the average teen-age driver is a menace. The majority of teen-age drivers are as good behind the wheel as their more experienced elders—at least that's what the record showed at a teen-age driving contest in Britton, Oklahoma.

The occasion was the Jaycee Teen-age Road-e-o, a driving contest designed to test the skill and attitude of the young driver. It was an event co-sponsored by the Britton and Oklahoma City Jaycees. (A Jaycee is a member of the U. S. Junior Chamber of Commerce.)

The Road-e-o was held on a rainy Saturday, April 19th.

When Burl Holmes, Britton Jaycee president, got up that morning, he thought that all his planning had gone for nothing. Little did he realize that he, along with other committee members, would soon be taking the very skill test that they were prepared to give the teen-agers.

Before he got his car parked, a cluster of young drivers was on his back wondering when they would get started—rain or no rain. It was then that they issued the challenge to Holmes and his committee to participate in the competition. This was arranged and the results proved most interesting.

Out of a possible score of 500, the adult team averaged 388. The teen-age winner ended up with a score of 454. The lowest score by a teen-ager was 324, the overall average for the teen-agers was 392—four points higher than the adult average. Judging the contest were members of the state and local police departments and driver education instructors.

In the Britton Road-e-o a written quiz and a driver skill test were given to each contestant. The written quiz was one developed by the U. S. Jaycee National Teen-age Road-e-o Committee and contained questions used in drivers' license examinations and driver education programs. They were designed to test attitude of the driver as well as knowledge of road situations.

Turn Page

Junior will probably have a better understanding of why Pop doesn't want him to put the car into the garage after tangling with exercise on backing, bane of most entrants.

Signs of Life. The contestants got to know that highway signs and signals are meant to help. It helped, too, to feel that they had posted route as they are doing here.

Teen-age ROAD-E-O

Retractable rubber fenders would have helped smooth the way for many of the contestants who had trouble fitting their vehicle in the slot in the parking exercise.

The driving skill exercises, which accounted for 400 of the possible 500 points, were ones adapted from the driving exercises prepared by Amos E. Neyhart, consultant on road training for the American Automobile Association.

To enter the Road-e-o all that was needed by the entrant was a drivers' license or a learners' permit and a statement that he or she had not been guilty of a moving traffic violation for a period of six months previous to the Road-e-o.

One of the most interesting parts of the competition was the reaction the contestants had to the different skill tests. On Exercise I, which consisted of driving forward and backward on a straight line for a hundred feet, one of the entrants said when beginning his run "This sure looks easy," but when finishing, he said, "My gosh, maybe that's why I get off the shoulder on narrow roads. Guess I need some practice on this one."

Exercise 2 proved to be the stumbling block for most of the contestants. It was necessary on this test to drive forward and backward in a serpentine fashion without touching the stanchions and white lines or moving out of the allotted area. To make a good score one had to judge the position of both front and back and sides of the car accurately. A choice comment here was "I didn't know this car was that big. I guess that's why Dad always worries when I put the car in the garage."

The reactions to the other exercises were equally as revealing. These tests included: Measuring ability to park; determining the location of front and rear wheels and location of front and rear bumpers; making a smooth stop within 40 feet while traveling in high gear at 20 miles an hour. Comments made by the teen-age contestants indicated to the Jaycees that this was a good method of pointing out driving errors.

Jud Veazy, general chairman, summed it up in this manner: "Looks like we have something; these kids are really interested and are serious about this deal."

There was no doubt about it, these young drivers were serious about the Road-e-o. They were meeting the challenge with typical youthful enthusiasm and confidence. Some of the confidence was lost, however, by the end of the day. One in particular felt badly. He had progressed very nicely until he came to the parking exercise. When after two tries he had failed to make it, all his pent-up emotion and nervousness had to come out. He broke down and cried much the same as a basketball player missing a foul shot in the last second of a tie game. There was no doubt in the minds of those who witnessed this incident that soon he will learn how a park a car properly.

When the contest was all over and the final scores were in, there was only a four-point spread between the first three places. The winner—17-year-old Jim York, student of John Marshall High School, upon learning he was the winner, with a note of surprise in his voice said, "I don't know how I won, I thought I did lousy. I sure learned a lot." There was no so-called teen-age cockiness there. Jim found out, as did others, that there is always room for improvement.

What does all this prove? It proves that the teen-age driver has all the capacities to be a skillful and safe driver and that the adult driver before condemning the teen-age driver should remember that there is always room for improvement in his driving. It should also graphically point out to all that if we are to stop the rising accident rate "our greatest hope is in tomorrow's drivers."

It is on that premise that the U. S. Jaycees and the Liberty Mutual Insurance Company are co-sponsoring the National Teen-age Road-e-o. A propect that will eventually see teen-age drivers from every state competing for the title "Driver Champion" of the USA.

Winners of local Road-e-o's such as the one held in Britton will be competing in state contests to be held in July all over the United States. State Road-e-o winners will compete in the national running to b held in Washington, D. C., August 20-23, where $2,500.00 in scholarships will be awarded. The testing on the state and national levels will be progressively more difficult and include a road check and the use of testing equipment.

The whole purpose of the project, as the sponsors see it, is to make it clear to all drivers that one should never stop improving his driving ability. As one teen-ager who participated in the brake-detonator demonstration put it: "You mean it took me 38 feet 6 inches to stop!" A lesson learned may save a life.

Name Sloan Award Winners

TWO commercial radio stations, one television station, one non-commercial educational radio station and three radio advertisers have been named by the National Safety Council as recipients of the Alfred P. Sloan Radio and Television Award for Highway Safety in 1951.

The awards were presented by Alfred P. Sloan at a dinner May 20 in the Waldorf-Astoria Hotel in New York City.

The Sloan Awards, administered by the Council, were established in 1948 to encourage the broadcasting industry to increase its support of accident prevention and to recognize best annual safety performances.

The awards are offered in five main categories, as follows: national or regional radio networks, television networks, television stations, regional or clear channel radio stations, and local radio stations. In addition, a sustaining award is offered in the non-commercial educational station category.

Station WBUD, Trenton, N. J., received the award in the local sustaining classification for a safety campaign launched on July 5, 1951, and continued through Labor Day, 1952. A staff member of the station devoted virtually all of his time to this campaign, making talks before civic groups, arranging interviews on the air, and attending to the many items connected with such a campaign. Moreover, the station drew up a mimeographed round-up letter in response to numerous inquiries from other stations and automobile clubs. This letter was made available on request.

The Granite Chevrolet Co. Inc., Quincy, Mass., was honored with the award for 120 special safety programs entitled "Safety Is Everybody's Business," as broadcast over Station WJDA, Quincy.

Station KING, Seattle, Wash., was named winner in the regional radio stations sustaining category for an extraordinary amount of time — 606 hours—devoted 100 per cent to traffic safety. The judges were especially impressed with the "Traffic Jamboree" program as an hour-long safety reminder to motorists on their way home from work, and for special safety announcements recorded on the spot—in hospital rooms, in police courts, etc.

The ESSO Standard Oil Co. of New York was selected in the national and regional radio network commercial classification for devoting one out of every seven 1951 commercials to safety on 52 radio stations carrying the Esso Reporter Newscast.

Television Station WCPO-TV, Cincinnati, Ohio, received an award in the television sustaining category for 373 special safety programs, 14,370 spot announcements and 604 mentions on regular programs. The judges praised Ed Weston, program director of the station, "for one of the most extensive safety drives ever reported."

The DeSoto-Plymouth Dealers of America won the award in the television network commercial category for a planned program that featured National Safety Council slogans on 49 out of 52 "You Bet Your Life" broadcasts during the year.

Station WTDS-FM, owned and operated by the Toledo Public Schools, Toledo, Ohio, won the non-commercial educational station award for incorporating safety in an entertaining way on programs designed both for the primary level and for a higher level. The station also prepared handbooks for teachers' use in the various grades.

A special jury of leaders in safety, education and broadcasting fields served as judges of the awards. Members of the jury were: Chairman, R. L. Forney, general secretary, National Safety Council; Kenneth G. Bartlett, dean of the University College and director of the Radio and Television Workshop of Syracuse University; Mrs. Norbert J. Klein of Milwaukee, representing the General Federation of Women's Clubs; Miss Elizabeth Marshall, assistant director, Station WBEZ, representing the Board of Education of Chicago; Earl W. Merritt, president, American Association of Motor Vehicle Administrators, and Dr. John W. Studebaker, chairman of the School and College Conference of the National Safety Council.

In announcing the award winners, Ned H. Dearborn, president of the National Safety Council, praised the Alfred P. Sloan Foundation for continuing to encourage effective safety activities on the air.

"No one can say how many lives the Alfred P. Sloan highway safety awards have saved, nor how many accidents the awards have prevented," he said. "But no one can doubt that it has stimulated safety activity on the part of advertisers and radio broadcasters alike. It is a great project deserving the support of all persons interested in the safety and welfare of the nation."

JUDGES for the Sloan Award are shown as they met in Chicago to go over the entries. Clockwise around the table are: Dr. Kenneth Bartlett, dean of the University College and director, Radio and Television Workshop, Syracuse University; Earl W. Merritt, president, American Association of Motor Vehicle Administrators; Chairman R. L. Forney, general secretary, National Safety Council; Mrs. Norbert J. Klein, representing General Federation of Women's Clubs; Miss Elizabeth Marshall, assistant director, Station WBEZ, Chicago, who represented the Board of Education of Chicago.

President's Highway Safety Conference Meets in October

Secretary of Commerce Charles Sawyer has informed President Truman that he will soon establish an advisory committee of outstanding business and industrial executives to examine the problem of the nation's high highway accident rate and to recommend measures for reducing it, the U. S. Department of Commerce announced.

As general chairman of the President's Highway Safety Conference, to which he was appointed in April, Secretary Sawyer also reported that he is calling a meeting of the Conference in Chicago on October 17 and 18. The representatives of his new advisory committee as well as officials and supporting groups from each of the 48 states will be invited to the Chicago conference.

Purpose of the October meetings will be to determine what progress has been made to date in the program backed by the Conference and to devise further means for getting the program more widely applied, the Secretary said.

The President's Safety Conference has developed and is promoting the adoption of the following seven-point program:

(1) Adoption of the Uniform Vehicle Code and the Model Traffic Ordinance in the interest of uniformity in traffic laws and regulations.

(2) More effective collection and analysis of traffic accident reports and use of these reports in guiding highway-safety activities.

(3) The continuance in all American schools of traffic safety programs to give guidance in accident prevention.

(4) The operation of continuing traffic law enforcement programs in cities and states that will stimulate maximum voluntary observance of regulations by creating adequate deterrance to violators.

(5) Use of engineering principles and techniques to eliminate or reduce physical hazards and to promote the safe control of traffic movements.

(6) Adoption by the states of sound policies and procedures in the field of motor-vehicle administration, with special attention to driver licensing and vehicle inspection.

(7) Continuance of efforts by all public information media to spread the word about highway safety—and the lack of it—to the public.

West Germans Honor Dearborn

IN A perfect tie-in with the 40th National Safety Congress to be held in Chicago October 20th, leaders of the German National Safety Council present Ned H. Dearborn, president of the National Safety Council, with a 40-year Safe Driver Award. Gathered in Mr. Dearborn's office for the presentation, are—from left: Heinrick Krueger, Dr. Carl Edmund Loth, Mr. Dearborn, Paul W. Hofmann and Oskar Schneider.

"IT'S the best award we have. And we wanted the president of the National Safety Council to have the best—our top traffic safety award."

With these words of explanation, four traffic safety officials of Western Germany presented Ned H. Dearborn with the 40-year Safe Driver Award of the *Bundesverkehrswacht*—the German National Safety Council, on the occasion of their visit (May 2) to NSC headquarters.

The four German traffic safety officials, all of them directors of the German National Safety Council, spent two months in the United States studying traffic control methods and traffic safety organization. They came under sponsorship of the Exchange Program for Leaders and Specialists developed by the U. S. State Department. Professor J. L. Lingo of Purdue University served as advisor for the group while they were in the United States.

The four were: Dr. Carl Edmund Lowe, Heinrich Krueger, Oskar Schneider and Paul W. Hofmann.

Dr. Loth is chairman, Managing Committee, German Insurance Companies, and a director of the State Safety Council of North Rhine Westfalen. His home is in Cologne.

Mr. Krueger is secretary general of Commercial Transportation Organization in Western Germany. He lives in Frankfurt. Oskar Schneider is a member of the Committee on West German Federal Republic Traffic Police, and a director, Association of German Vehicle Maintenance Group. His home is in Dusseldorf. Paul W. Hofmann is director, Accident Prevention Department of German Insurance Companies, and is interested in varied safety activities. He lives in Cologne.

The group visited Washington, D. C., Chicago, New York, Indianapolis, Purdue University at Lafayette, Ind., Denver, Oklahoma City and Detroit. They returned to Germany May 28.

GREEN CROSS News

by TOM A. BURKE

MATTERS of special importance to NSC Chapters were acted upon at the meeting of the Procedures Committee of the Conference of Local Safety Organizations, held in Chicago May 2. The group recommended the adoption of a Retirement Income Plan for Chapter managers and staff members; the establishment of an Institute for Safety Council Administration, to be held the first two weeks in August; the appointment of a special committee to study the possibility of making a movie that would tell the story of the local council, its work and potential; and the selection of a special group to work with the Field Organization in preparing the program for the Annual Managers' Conference in October.

The Committee also recommended Chapter status for the Philadelphia Safety Council, the Greater Youngstown Safety Council and the Connecticut Safety Commission. The various recommendations will be presented to the NSC Board for final approval at its next meeting. Definite progress in establishing councils in Buffalo, N. Y., Miami, Fla., Asheville, N. C., and Muskegon, Mich. was reported. Fifteen of the 16 members of the Procedures Committee attended the Chicago meeting. Chairman Walter D. Ladd presided. Robert R. Snodgrass of Atlanta, NSC vice president for local safety organizations attended the meeting.

League Teams for Safety

The fifth annual big league baseball game for the benefit of the child safety program of the Western Pennsylvania Safety Council, will be played Monday evening, July 21 at Forbes Field, Pittsburgh. The participants will be the Pittsburgh Pirates and the Detroit Tigers. Previous games brought the Philadelphia and Boston American teams as Pirate opponents. The project is sponsored by the Pittsburgh *Sun-Telegraph* and the Safety Council. According to Manager Harry H. Brainerd proceeds will be used to continue the Green Pennant program, the Safety Patrol picnic, the Safety Patrol Training Camp and other school projects. . . . The *Sun-Telegraph* gave over its first page entirely to safety on the opening day of the recent 27th annual Safety Conference and Exhibit in Pittsburgh.

Great Jig Saw Puzzle

A giant outdoor safety poster in Denver was mounted and later cut up as a huge jig saw puzzle, after which it was assembled correctly—and publicly—by a group of Denver school youngsters. This novel safety educational project, which attracted wide attention, was sponsored by the *Denver Post*, the General Outdoor Advertising Company, the Police Department, the schools and the Denver Safety Council. The purpose was to emphasize the April "Operation Safety" theme, child, pedestrian and bicycle safety, in the Denver area. More than 400 youngsters participated in the "assembly" job.

Radar Control Urged

The use of radar for measuring speed of automobiles on Delaware highways as a means of reducing the mounting number of accidents, including fatal mishaps, has been recommended by the Delaware Safety Council, according to Council manager, J. James Ashton. The recommendation followed announcement by Col. Harry S. Shew, superintendent of state police and Chief Harvey J. Wadman of the Wilmington Bureau of Police, that their departments will exert all efforts to get the reckless and intoxicated driver off the highways. Attorney General H. Albert Young, in support of the police heads and the safety council, has pledged vigorous prosecution of all cases involving fatalities.

Madam President

THE Bluegrass State has always paraded its belles, and the safety movement is no exception. Mrs. Henry Burt, center, is the new president of the Kentucky Safety Council. She is receiving the congratulations of Charles B. Jones, executive secretary of the Governor's Highway Safety Committee, at left, and A. A. Byrne, general chairman of the safety conference and retiring president of the State Council. Mrs. Burt is believed to be the first woman ever elected president of a state council.

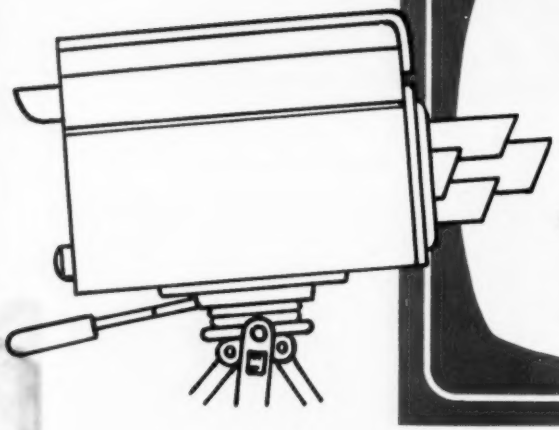
County Council Formed

First steps in the organization of the Tompkins County Safety Council were taken at Ithaca, N. Y., March 13, at a meeting attended by 100 representative citizens of the area. Ralph W. Jones of the Ithaca Public Schools presided. Five officers and a temporary board of 22 directors were chosen. The president is to be selected at the second meeting of the board, at which time it is planned to increase the membership in the outside areas, so that all sections of the county will be represented. The Council has strong support from Cornell University faculty leaders.

Arkansas Is Independent

The Arkansas Safety Council, which has been supported by state funds since its organization a few years ago, will operate in the future as an independent agency, according

To Page 23



Training by Telecast

By R. C. Salisbury
Director, Safety Division,
Motor Vehicle Department of Wisconsin

BELIEVING that proper driving attitudes can be caught and mechanical skills taught via television, the Motor Vehicle Department of Wisconsin has worked closely with WTMJ-TV, *The Milwaukee Journal* television station, in developing an eight-weeks course entitled, "Let's Be Good Drivers."

Presented each Friday from 2 to 2:30 p.m. over "A Woman's World" program, conducted by Beulah Donohue, the telecasts are being viewed by an estimated audience of more than 50,000 persons.

Three young women non-drivers have been under the tutelage of Dale Schuppener, instructor in Driver Education at Shorewood High School.

Participants were Mrs. William V. Benjamin and Mrs. Albert Buchholz, chosen for the course by the Shorewood Woman's Club, and Miss Arlyne Weinberg, a junior at Shorewood High.

In the first program in this series, a new model Chevrolet chassis was used to point out the source of horsepower, functioning of the braking system, identity of the differential, transmission and other parts. Fillmore Laun, instructor in Rufus King High School, Milwaukee, added use of parts models in explaining the working of

WTMJ-TV cameras are trained on magnetic traffic board, as Mrs. Benjamin, Miss Weinberg, Miss Donohue, Ben Patterson and Mrs. Buschholz discuss rules of the road.

Close-up of magnetic board shows Mrs. Benjamin demonstrating how and when to move from one lane to another. Learning by doing is focal point of TV driver program.

an auto engine. The chassis was transported from Janesville to Milwaukee as a public service contribution of the W. R. Arthur Co., auto transporting firm.

After obtaining this nodding acquaintance with a motor vehicle, the first show went on to feature Miss Donohue introducing the three to Capt. William Philip, of the State Traffic Patrol, who advised them that their first job in becoming good drivers was to learn the rules of the road. He gave them copies of *Manual for Motorists,* asking them to be ready the following Friday to take tests given by the state for beginners' permits.

An invitation was extended to viewers to write in for the same manual. Over 1,000 requests were sent in to WTMJ-TV and forwarded to our department in Madison, Wisconsin's capital city. On many of the inquiries, other questions were asked, concerning traffic laws and driver license requirements. Answering these queries afforded an excellent opportunity of obtaining the goodwill of the people inquiring, by replying promptly.

On the second show, Ben Patterson, instructor in the Milwaukee Schools of Adult and Vocational Education, used a magnetic board to point-up various traffic situations. Mr. Patterson then posed numerous questions, allowing the cast to point out how the problems should be handled.

With the aid of a portable driver clinic, Mr. Patterson and Captain Philip put the TV pupils through various psychophysical tests, with particular emphasis on the vision tests. In the role of driver license examiner, the captain questioned the students as to the meaning of shapes of highway signs. He asked them to identify various signs by their shapes alone. Signs and pavement markings, he explained, are the motorists' 'Signs of Life" to all who read them and heed them. Show No. 2 concluded with the participants seating themselves to start the state's 50-question written test for beginners' licenses.

On Show No. 3, Captain Philip awarded beginners' permits. The main visual prop of this program was

Turn Page

Beulah Donohue, who conducts "A Woman's World" on the *Milwaukee Journal's* television station, looks like this to the TV audience as she begins her program.

Captain Phillip, of the Wisconsin State Traffic Patrol, discusses shapes of highway signs. Televiewers got the idea when captain explained they were Signs of Life.

Miss Donohue, left, looks on as Dale Schuppner, Shorewood High School instructor (behind the wheel) explains the panel instrument to Mrs. Benjamin on TV program.

Ben Patterson of Milwaukee's Schools of Adult and Vocational Education, puts learners through distance judgment test on program over WTMJ-TV.

Training by Telecast

Importance of breadth of vision is discussed by Ben Patterson, Miss Donohue and the three learners: Mrs. Buchholz, Mrs. Benjamin and Miss Weinberg.

a convertible car furnished by Ennis Motors. Mr. Schuppener and Mr. Laun collaborated in identifying instrument panel devices on the actual car panel and on a large chart showing only the panel.

Mr. Schuppener went on to explain the gearshift, gas pedal, clutch, brake, parking brake and turn indicators. He brought out the fundamentals of starting a vehicle—seeing that the car is in neutral, checking to see that the way is clear, releasing the emergency brake, and being ready to proceed.

On Show No. 4, Mr. Patterson returned with driver testing devices, with emphasis this time on tests for brake reaction time, distance judgment and glare reaction. Night-time driving, operating in fog and other special problems were discussed.

On Show No. 5, James Mortenson, driver education instructor in Greendale High School, utilized a set of table model mock-ups in building a village complete with homes, stores, public buildings, streets, alleys, crosswalks and model cars. He asked the learners to proceed from one location to another, making sure that all laws were obeyed. U-turns, right and left turns, parking problems and emergency vehicle approaches were involved in the discussion. Portions of the Ford Company's latest driver education motion picture film series were interjected into the show to illustrate how to park in parallel and in angle spaces.

On Show No. 6, Captain Philip and Officer Winfred Griebling put the trio through an actual road test on Capitol Drive, in front of the WTMJ-TV studios. A two-minute vehicle checkup preceded the driver testing. Problems in starting, stopping, turning, backing and parking were handled by the learners. Miss Donohue commended Mr. Schuppener for his many hours of actual instruction of the cast during late week-day afternoons and on weekends.

Two more shows will complete the "Let's Be Good Drivers" series. On Show No. 7, the TV trio will be granted their final licenses, good for four years, renewable at the end of that period. John Thompson, administrative assistant in charge of driver licensing in the Motor Vehicle Department, will award the licenses and explain Wisconsin's central driver record file system. He will advise the new drivers that the state is watching their behavior, as it is watching the actions of all drivers.

Wisconsin keeps an individualized record on each licensed driver's traffic court convictions and reportable auto accidents. Letters of warning are sent to motorists whose record shows three entries within 12 months, advising that on the fourth conviction and/or mishap before a year is completed the driving privileges of such person will be suspended.

On Show No. 8, the three new drivers again will hear from Mr. Laun, who with the aid of an automobile will point out how to take good care of one's car.

A certificate of recognition for WTMJ-TV's much-appreciated contribution to public safety education in Wisconsin will be presented to Miss Donohue on this program, on behalf of the Motor Vehicle Department.

Special letters of thanks will go to the three women who became licensed drivers during the course of this program, the several driver education instructors who participated in the TV series, the State Traffic Patrol officers who took part, the companies who furnished cars, the Milwaukee County Automobile Dealers Association, which paid for the gas and oil used in instructing the trio in a dual-control car, the State Highway Commission which furnished standard highway warning signs, the Driver Education class of Greendale High School whose members built mock-ups for a table top village, and Dale Schuppener, Shorewood High School's Driver Education expert who gave much time to teaching the learners a specially condensed course.

Sprague Vonier directed the series on television. Aid in programming was provided by Paul Edlund, Robert Matson and Ira M. Catlin of the Safety Division staff.

The program, "Let's Be Good Drivers," is proving that the public has a tremendous interest in lerning what is required in the making of better drivers.

First Dow Award to P.I.E.'s Director of Safety—Ken Beadle

KENNETH N. BEADLE, director of safety for the Pacific Intermountain Express Co. of Oakland, California, has been declared winner of the first Marcus A. Dow Memorial Award.

The Dow Award, highest in the nation for professional achievement in the field of motor transportation safety engineering, was established in 1951 by the National Safety Council through a grant by the Greyhound Corporation. Announcement of Beadle's selection was made by Walter A. Stewart, president of the American Optical Company, chairman of the committee of judges.

Beadle, who has an extensive background in safety education, began his fleet safety work with Pacific Intermountain Express in 1946. Within the first two years of his employment, Pacific Intermountain Express achieved the highest honor for safe operation awarded by the American Trucking Associations and during the past four years has maintained this coveted position. This record brought to P.I.E. the Trailmobile Safety Trophy for 1948, 1950, and 1951 and resulted in P.I.E. being declared permanent winner of the trophy.

During 1950 and 1951 Mr. Beadle served as chairman of the American Trucking Association's Council of Safety Supervisors. Under his direction the Council organized the "Anti Tailgate Campaign," one of the most successful accident prevention campaigns promoted by the trucking industry. In 1951 the Board of Directors of the American Trucking Associations presented Beadle with the A.T.A. "Citation for Meritorious Service" for "his unselfish devotion of time and energy to the national interest of the trucking industry."

Beadle is a member of the Executive Committee and Western Regional Chairman of the National Safety Council's Commercial Vehicle Section and has contributed extensively to the development of the Council's industry-wide program for commercial vehicle operators. He has also contributed to annual programs of the National Safety Congress, programs of the American Trucking Associations and to local and regional activities of both organizations. He has made frequent appearances as instructor at fleet supervisor training courses conducted at various universities.

Mr. Beadle

The P.I.E. safety director has authored three articles on fleet safety and 13 on safety education. He assisted in the preparation of "Man and the Motor Car" and authored a teacher's manual for use with this publication. He is co-author of a manual on driver selection and training published by the U.S. Army.

Prior to his present position with P.I.E. Beadle was superintendent of safety for the St. Paul School System and later director of the Educational Division of the Association of Casualty and Surety Companies. During World War II, Beadle served as safety director of Fifth Army and was appointed Armed Forces staff member to the original President's Highway Safety Conference of 1946.

The Dow Award was established through grant by the Greyhound Corporation in memory of Marcus A. Dow, first general safety director of the Greyhound Corporation and a pioneer of motor transportation accident prevention. Purpose of the award is "to recognize, reward, and foster high standards of professional achievement in the field of motor transportation safety engineering."

In addition to Chairman Walter A. Stewart, the committee of judges for the award is composed of M. G. Bullock, supervising engineer, Transit Casualty Company, St. Louis, Missouri, and chairman of the Transit Section of the National Safety Council; C. D. Calkins, director of safety, Pacific Motor Trucking Company, San Francisco, California, and chairman of the Commercial Vehicle Section of the National Safety Council; E. G. Cox, chief, Section of Safety, Bureau of Motor Carriers, Interstate Commerce Commission, and Paul H. Coburn, director, Commercial Vehicle and Transit Division of the National Safety Council.

Green Cross News

From Page 19

to a recent announcement by Dr. Matt L. Ellis, president of the Council. Temporary headquarters have been set up in Room 307, Union Life Building. Secretary Harvey D. Booth reports that a fund-raising campaign is underway.

A Newspaper's Public Service

The *Cincinnati Enquirer* recently assigned Safety Reporter Phillip M. Swatek to visit several cities where good traffic safety records have been made, for a series of stories that would help the Greater Cincinnati Safety Council in its war on motor vehicle accidents. Swatek visited Oklahoma City, Dallas, Milwaukee, Evanston, Ill., and South Bend, each of which has won national traffic safety recognition in past years. The *Enquirer*, a vigorous safety crusader for a long time, gave full support to the organization of the council about 18 months ago.

License Reminder

Fifteen thousand copies of a folder on unlicensed motor vehicle operators, have been sent to the parents of students in the Oklahoma City schools from grades 8 through 12. The city has recently experienced an increasing number of unlicensed youngsters riding scooters, and in some cases, operating automobiles. The pamphlet was prepared and distributed by the Oklahoma City Safety Council with full approval of the Police Department.

"Lite-a-Bike Week"

Portland (Ore.) recently observed "Lite-a-Bike Week," under the sponsorship of the Traffic and Transportation Commission, with cooperating civic clubs, PTA groups and the school administration. Plans were made for Scotchliting 25,000 bicycles, mostly owned by Portland school youngsters.

the GREEN LINE story

From Page 6

vestigating committee was appointed, comprising two union representatives, two company representatives, and the manager of the Claims Department, which is a contracted organization in The Green Line operations.

Purpose of this committee was to determine ways and means of reducing accidents. Over a period of months—and many meetings—certain definite recommendations were made. These included:

1. **The organization of a permanent Safety Board.**
2. **Complete reorganization of accident reporting and grading systems.**
3. **Institution of a reorganized operator training program.**
4. **Recommendation that The Green Line become a member of The National Safety Council and make use of the NSC Safe Driver Award and other materials.**
5. **Safety meetings.**
6. **The hiring of a full-time Safety Counselor.**

The Safety Board consisted of three members of the union, representing the three divisions of the company; two assistant superintendents of transportation; the superintendent of equipment; and the claims manager. There is no hard and fast rule as to the composition of the board and membership may be varied from the union or the company viewpoint from year to year. The board is appointed by the company and the union's members are recommended by the union.

In recalling the organization of the Safety Board and the developments that followed, Dave Ringo says: "The safety program has certainly proven to be one of the best things ever undertaken here and has gotten results despite the growing number of automobiles which are causing such traffic congestion. In addition, the benefit of the safety program to the company, its personnel and the traveling public has been of tremendous importance to all."

The accident report form used previously had been difficult for operators to understand and was primarily designed for use with street cars. It did not furnish adequate information for accident analyses purposes. The newly designed form corrected these errors and, when used in conjunction with McBee Keysort cards, it functioned very well in presenting to the Safety Board and the safety counselor a picture of conditions from which adequate corrective measures could be determined. It also has done an adequate job for the claims office. It is interesting to note that this report form and system have been instrumental in reducing blind accidents.

After considerable study, the safety committee recommended changes in the operator-training program. This has paid large dividends in reducing the number of accidents. The rookie operator who successfully passes the Green Line training program knows he must be a good operator—and a safe one. One of the chief factors in this result has been the careful selection of instructors, who are chosen for their ability to transmit attitude and mechanical knowledge to the green rookies. There is also a complete manual of instructions on the steps which are taken in the instruction period between employment and operator status.

The Green Line Joins NSC

After considerable study, the investigating committee concluded that the National Safety Council Safe Driver Award was a better tool for the reduction of accidents than any other known award or incentive. Its na-

Training covers plenty of ground. At left, two Green Line students learn some of the things that make a bus tick, before they turn a wheel. Monroe Points is the student instructor. Below: Most important person in the picture is Jim Brown, left, getting basic pointers on mechanical function of vehicle from garage foreman, Arthur Hunter. Instructor Jim Lucas looks on.

They handle one of the biggest jobs—training. Competent student instructors—those who can impart the philosophy of a good and conscientious operator into the minds and practices of their students—are assigned the job of converting the rookie driver into a smooth transit operator.

tional aspects, its high quality as an award and the standards procedure which removed judgment matters from the hands of the company to some extent led to this decision. The NSC Safe Driver Award has been very successfully adopted by the company and is definitely a major factor in the accident reduction percentages achieved by The Green Line. Accident grading is done carefully, which adds significance to the 743 National Safety Council Safe Driver Awards which have been made to Green Line operators since the System joined the Council in 1947. During the last year, 190 Green Line operators won the coveted award.

Besides the NSC Safe Driver Awards, the committee also recommended the use of other National Safety Council materials such as the Driver Letter, the *Safe Driver* magazine, dash cards, posters, and the pamphlet "For Experts Only." Various other media are used to carry the safety message to Green Line personnel. Letters from the Safety Board, the safety counselor and company officials, car cards, pamphlets, bulletins American Transit Association literature, the bi-monthly employees newspaper, *The Greenliner*—all are used to keep the word *"safety"* in the minds of employees, not only operators, but maintenance and office personnel as well.

Another effective reminder, which appeals to the competitive spirit of the personnel, employs safety score boards placed in the operating divisions. A daily running account of accidents—or lack of them—is kept on these boards.

Green Line management takes issue with "spare-the-rod-and-spoil-the-child" advocates. As Jim Osborne explains it, "We Americans cannot be forced into doing anything. Our group does not believe that operators can be suspended, fined or penalized into safe operation. Fear psychology may impose temporary or apparent improvement, but we do not believe it lasts. We do believe that operators must be trained to drive their vehicles safely and that every effort must be expended in that direction, with suspensions and dismissals as a last resort. We believe that careful personnel selection and training programs will produce a high percentage of safe operators and weed out those temperamentally incapable of absorbing correct training."

The Safety Board, which meets once a month for a full day's session, acts as a review agent on accident grading and makes recommendations on whether any appealed case shall be changed. The Board also meets once every three months with operators employed during the preceding quarter for a "get acquainted" session, when it explains purposes and functions of the safety program. Annually the Board meets with those operators who

Next Page

NOT a graybeard in a carload of Green Lines' top management. The "youth movement" of the transit lines which operate on the Kentucky side of Cincinnati's metropolitan area is paying off big dividends in accident prevention. Here are ten reasons why the Green Line Story is a pleasant bit of reading for the riding public, stockholders and the working personnel.

Ringo

Osborne

Healy

Coffman

Whitney

Clifford

Garvey

Osterman

Ishmael

Lee

Green Line

From Page 25

have had unimpressive safety records during the year for discussion as to what might be done to improve their records during the coming year.

The Northern Kentucky Transit Safety Board, since its inception, has encouraged Green Line System employees and the public to submit suggestions toward accident prevention. Hundreds of these have been reviewed and many valuable ones have been put into effect.

Advisory Group Set Up

An advisory group to the Safety Board was established some time ago, in order to retain the services of members elevated to other positions. This occurred when Charles McCarty became union business manager; Lloyd Edwards was named an official of the union; and James S. Osborne became assistant general manager of the companies. While they have no official vote in board matters, their advice and suggestions are invaluable to the safety program.

It goes without saying that McCarty and Edwards are NSC Safe Driver Award winners; McCarty with a three-year pin when he took over his union duties, and Edwards currently in his fifth year of accident-free operation.

Although Dave Ringo and Jim Osborne are busy men, neither is ever too busy to congratulate Green Line operators appearing before the Northern Kentucky Transit Safety Board to receive NSC Safe Driver Awards. Dave is always on hand, unless he is out of town, to make the awards and give encouragement to the operators. If business keeps him away, Jim fills in. That's the personal contact again. Too many presidents or assistant general managers are too occupied to say hello to the boys, or as we say in Kentucky, "to pass the time of day." Those little personal contacts pay big dividends, for the fellows love it, and there is no doubt that Ringo and Osborne enjoy it, for both came up through the ranks.

The Green Line System management believes it money well spent, when twice a year operators who have won two or more NSC Safe Driver Awards are guests at one of Northern Kentucky's nicer dining spots for a dinner "on the boss." Formality is forgotten at these affairs. Speeches are prohibited. Everyone takes off his coat if he desires, rolls up his sleeves and dives into a plate of Kentucky fried chicken or ham and hot biscuits. The only order of business is a short congratulatory talk from Dave and Jim and the pins are handed out. Operators remember that evening with renewed intentions of keeping their safety records in full force.

Healy Becomes Counselor

In 1949, the Safety Board recommended the employment of a full-time safety counselor and Richard D. Healy came to the Green Line System from Washington, D. C. Although the safety counselor is primarily an advisor and trouble-shooter of accident problems, "Dick" Healy is a sort of "mother confessor" or "big brother" to employees throughout the System. It is not unusual, day or night, to see Healy surrounded by a group of operators listening earnestly to his safety message.

Operators tell Dick exactly how they feel about an accident and accident prevention in general. They know that every suggestion made to him, regardless of what he thinks of it, will be placed before the Safety Board for consideration. They also know that they will be told of the Board's action, by both Healy and the division representative on the Board. In short, the safety counselor is the connecting link between the Safety Board and management and between the Safety Board and operating personnel.

Although not a member of the Safety Board, the safety counselor coordinates his efforts with those of the Board, cooperates in every possible way with the members and serves as secretary of the group.

A veteran of World War II with an impressive record, Healy is not required to follow the old army custom of "going through channels," but reports direct to management and enjoys complete freedom from any departmental interference. This practice has proved invaluable as an expediting factor.

It's a safe bet that everyone in the

NEW PUBLICATIONS in the field of Public Safety

Books and Pamphlets

Directing Traffic. Published by Traffic Institute, Northwestern University, Evanston, Ill. 1952. 12p. 25c.

Driver Education for Adults. Published by Center for Safety Education, New York University, New York, N. Y. 1952. 16p.

Fire Prevention Films. Published by National Board of Fire Underwriters, 85 John St., New York 38, N. Y. 1952. 5p. Free.

Motor Carrier Fire Accidents—1950. Published by Interstate Commerce Commission, Bureau of Motor Carriers, Washington 25, D. C. 1952. 45p.

Skidmarks. Published by Traffic Institute, Northwestern University, Evanston, Ill. 1952. 9p. 25c.

Magazine Articles

Air Raid Warning, Sound Emination and Air Raid Sirens, by Thomas W. Perry. *Municipal Signal Engineer.* March-April, 1952. p. 33.

Denver Wins Safety Honor with Traffic Engineering $75 Project. *California Highway Patrolman.* April, 1952. p. 41.

Highways Can Be Made Safer, by Roy E. Jorgensen. *SAE Journal.* May, 1952. p. 37.

Hot Rod Drivers Stir Officials, by Claude Connell. *California Highway Patrolman.* April, 1952. p. 59.

How Can People Be Taught Courteous Driving? *Motor Transportation.* April, 1952. p. 29.

Let's Be Realists. Safety Chief Foresees Gloomy Traffic Toll. *California Highway Patrolman.* April, 1952. p. 12.

Omaha Modernizes its Street Lighting, by E. B. McArdle. *Electric Light and Power.* April, 1952. p. 124.

Report of Committee on Safety of Maintenance Personnel, by C. W. Ross. *Highway Research Abstracts.* April, 1952. p. 28.

Traffic Engineering in Portland, Oregon, by F. T. Fowler. *Traffic Engineering.* April, 1952. p. 247.

Coming Events in the Field of Safety

June 9-13, New York

Annual Meeting National Fire Protection Association (Hotel Statler). Contact Percy Bugbee, general manager, 60 Batterymarch Street, Boston 10, Mass.

June 16-18, Long Beach, Calif.

Western Safety Conference (Wilton Hotel). Carl E. Johnson, president. Contact J. M. Kaplan, secretary-manager, Greater Los Angeles Chapter, National Safety Council, Suite 730, 610 South Main Street, Los Angeles 14, Calif.

June 23-27, Berkeley, Calif.

Fundamentals of Traffic Engineering. One week intensive course. 105 Engineering Building, Berkeley Campus of the University of California. Registration fee $15. Contact Institute of Transportation and Traffic Engineering, University of California, Berkeley 4, Calif.

Sept. 8-11, Chicago

Twenty-third Annual Meeting of the Institute of Traffic Engineers (Hotel Sherman). For further information contact Midwest Section, ITE, Room 722, 608 South Dearborn Street, Chicago, Ill.

September 8-13, Chicago

Illuminating Engineering Society. National Technical Conference (Edgewater Beach Hotel).

Sept. 11-12, York Harbor, Me.

Twenty-fifth Annual Maine State Safety Conference (Marshall House). Contact A. F. Minchin, secretary, Industrial Safety Division, State Department of Labor and Industry, Augusta, Me.

September 16-18, Cleveland

Fourteenth Annual Ohio State Safety Conference (Hotel Carter). Contact: Carl L. Smith, secretary-treasurer, Suite 508, 2073 East Ninth Street, Cleveland 15, Ohio.

Sept. 21-25, Los Angeles

Fifty-ninth Annual Conference of the International Association of Chiefs of Police (Biltmore Hotel). Contact Edward J. Kelly, executive secretary, 1424 K Street, N. W., Washington 5, D. C.

Sept. 22-25, Atlantic City, N. J.

Annual Meeting of the American Transit Association (Hotel Traymore). Contact Arthur Baker, general secretary, 292 Madison Avenue, New York 17.

Sept. 26, Oakland, Calif.

Annual One-Day Meeting of the Eastbay Chapter, National Safety Council. Contact Clinton W. Dreyer, managing director, 353 Fifteenth Street, Oakland 12, Calif.

Oct. 2-3, Sacramento, Calif.

California Governor's Traffic Safety Conference. Contact W. A. Huggins, 815 Capital Avenue, Sacramento, Calif.

Oct. 17-18, Chicago

President's Highway Safety Conference (Hotel La Salle). Additional information will be carried in these columns as it is announced.

Oct. 20-24, Chicago

Fortieth National Safety Congress & Exposition (Conrad Hilton Hotel). R. L. Forney, general secretary, National Safety Council, 425 North Michigan Avenue, Chicago 11.

Nov. 17-20, Chicago

Twentieth Annual Conference of the American Association of Motor Vehicle Administrators (Sheraton Hotel). Contact L. S. Harris, executive director, AAMVA, 912 Barr Building, Washington 6, D. C.

Nov. 12-13, Cincinnati, Ohio

Second Annual Greater Cincinnati Safety Conference. (Sheraton Gibson Hotel). Kenneth R. Miller, executive director, Greater Cincinnati Safety Council, 1203 Federal Reserve Bank Bldg., Fourth & Race Streets, Cincinnati, Ohio.

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entire Green Line System knows the safety counselor, not as Harvard-educated Mr. Healy from "Down East" around Boston way, but as "Dick," their friend and advisor, a congenial Irishman who can argue on almost any subject from the theory of relativity to the fact that Kentucky Bluegrass is just plain green, but who would rather talk safety with Green Line personnel. This personal contact with operating, maintenance and mechanical personnel alike, has produced results.

The first year after the Northern Kentucky Transit Safety Board went into action, there was a 15 per cent reduction in accidents. The rate took another decisive dive in 1949, slashed by 29 per cent. The following year, 1950, was a banner one, operators cutting accidents 34 per cent; in 1951, it again went down 13 per cent below 1950.

Accidents Down Each Year

These reductions, when considered in the light of "exposure," are remarkable. By exposure The Green Line means exposure to potential collision, principally, and this is borne out by the fact that automotive registration in the Green Line operating areas has more than doubled during the years when these reductions took place.

To paraphrase the "proof of the pudding" adage, the efficiency of any plan depends on its results. The Green Lines' safety program is no exception. The rank and file around the Green Line will admit that they are well pleased with the results achieved so far in accident reduction, but they realize that there is always room for improvement. It is the Green Line's policy and thinking that here there is no middle ground, an operator is either accident-conscious or accident-prone and all principal efforts have been directed toward this effect.

"No Vacation from Safety"

Osborne, who "doubled in brass" as the original chairman of the Safety Board, puts it this way: "There can be no vacation from safety in the transportation business and any company that does not put safety foremost is violating a public trust."

Dave Ringo's philosophy on the subject is: "Elimination of accidents is not, and never can be, a problem solely of the Safety Board or a safety counselor. The task of preventing accidents does not begin when the operator takes his bus out for his run. It starts in the garage, in the shops, on the way to work and in the home. One cannot be safety-minded by the trial and error method. We've got to make it a daily habit to make it work."

And Osborne sums up the feeling of all Greenliners who have taken this safety business so seriously: "Safety is not a campaign, but an attitude and a permanent coordination of everyday functions through building a cooperative spirit."

Green Line personnel, who serve the busriding public along the bank of the Ohio River in Northern Kentucky and across the river into Cincinnati, not only agree with Dave's and Jim's philosophy, but they practice it 24 hours a day. Every day, that is!

Leslie Williams Takes Philadelphia Traffic Post

Leslie Williams, traffic transit and city planning consultant, of New York City, took over the post of deputy commissioner of the Department of Streets of the City of Philadelphia June 1.

This department will design, construct, repair and maintain streets, handle traffic engineering, street lighting and traffic safety.

Crash Study

From Page 9

The distribution of force in time and area, and the physical principles of pressure compensation which provided these astonishing examples of protection were outlined in 1944**, and were first publicly demonstrated at Cornell University Medical College in 1946 by dropping eggs 150 feet onto an energy absorbing pad only 1½ inches thick without breaking them.

These observations, in conjunction with medical data from aircraft accidents, have led to studies of considerable significance to future safety. Supported by the Office of Naval Research, the Cornell Aeronautical Laboratory undertook studies aimed at providing engineering design criteria for modifying the blow-dealing characteristics and injury potential of objects commonly struck by the head in aircraft and automobile accidents. Though delayed by the current cold war and related defense activities, this Cornell-ONR Head Impact Investigation, when completed, should provide engineers with working data for reducing the force of blows, so that the present high rate of critical and fatal head injuries in survivable crashes may be decreased.

As an engineering art, the use of structures for protecting the human body in aircraft and automobile accidents is still very young and undeveloped. A great deal of research will be necessary before we know what types and arrangements of structure are best for absorbing the energy of crashes. Even in small planes, which are flown and frequently cracked up by inexperienced pilots, engineers attempting to provide crashworthiness still do not know whether metal monocoque or welded steel-tube structure gives greater safety on a weight-cost basis. And only a beginning has been made in studies for moderating the blow-dealing qualities of structures which surround all of us in aircraft and automobiles.

Progress in the protection of people has been slow, but the fault does not lie entirely with engineers: it lies chiefly with medical groups who have accepted any and all injuries—without endeavoring to understand their causes. Without medical data, engineers have been completely in the dark about many essential matters pertaining to safety. They have had to work without information as to what force the head and body can tolerate, and without statistical data on how often people are dangerously hurt—and by what.

Part of this lack of information can be attributed to inadequate investigation and reporting of accidents. Until Cornell's Crash Injury Research project was initiated in 1942, aircraft accident investigators studied crashes chiefly to determine *accident* causes; actual causes of *injury* rarely were observed or reported. As a result, data was available for efforts to prevent accidents by preventing their causes, but engineers had no data to use for preventing common and unnecessary causes of injury *in* accidents. Except for recent studies undertaken by the Indiana State Police, this blind spot in safety data still applies in the investigation of automobile accidents.

It is quite possible that excessive injuries frequently occur in automobiles under conditions of force which do not justify extreme results. If accident-injury data show that they do, and if the frequency of such injury causes indicates an important need of greater safety, automotive engineers will not hesitate to exert every effort to redesign dashboards, windshields and steering wheels to give greater protection.

**"Mechanics of Injury Under Force Conditions" by Hugh De Haven (Mechanical Engineering, April, 1944).

FINAL MOTOR-VEHICLE DEATHS BY STATES, 1949, 1950 AND 1951

	DEATHS			% CHANGES		1951 Pop. Rate*	1951 Mile. Rate
	1951	1950	1949	1950 to 1951	1949 to 1951		
TOTAL U. S.	37,300	35,000	31,701	+ 7%	+18%	24.3	7.6
Alabama	819	838	687	— 2%	+19%	26.7	11.0
Arizona	415	325	281	+28%	+48%	55.0	12.9
Arkansas	431	387	393	+11%	+10%	22.5	8.6
California	3,422	3,054	3,003	+12%	+14%	32.3	7.6
Colorado	344	388	318	—11%	+ 8%	25.7	6.6
Connecticut	265	260	201	+ 2%	+32%	13.2	5.9
Delaware	78	83	81	— 6%	— 4%	24.5	6.1
Florida	886	877	685	+ 1%	+29%	31.8	8.7
Georgia	954	905	746	+ 5%	+28%	27.6	9.5
Idaho	224	246	168	— 9%	+33%	37.8	9.4
Illinois	1,992	1,973	1,791	+ 1%	+11%	22.8	7.1
Indiana	1,247	1,124	1,121	+11%	+11%	31.5	8.5
Iowa	609	587	551	+ 4%	+11%	23.1	6.2
Kansas	611	534	497	+14%	+23%	31.9	8.4
Kentucky	743	730	613	+ 2%	+21%	25.1	10.1
Louisiana	659	591	520	+12%	+27%	24.5	9.5
Maine	149	162	160	— 8%	— 7%	16.2	5.0
Maryland	547	497	462	+10%	+18%	23.3	7.9
Massachusetts	492	530	471	— 7%	+ 4%	10.5	3.9
Michigan	1,640	1,607	1,441	+ 2%	+14%	25.6	7.2
Minnesota	610	532	540	+15%	+13%	20.3	6.3
Mississippi	500	478	386	+ 5%	+30%	22.9	8.6
Missouri	1,000	880	799	+12%	+25%	25.2	6.6
Montana	182	202	162	—10%	+12%	30.4	7.2
Nebraska	341	306	256	+11%	+33%	25.5	6.4
Nevada	129	112	82	+15%	+57%	80.6	12.0
New Hampshire	91	87	72	+ 5%	+26%	17.0	5.3
New Jersey	763	687	592	+11%	+29%	15.7	4.6
New Mexico	390	339	300	+15%	+30%	56.4	12.9
New York	2,075	1,963	1,904	+ 6%	+ 9%	13.9	6.2
North Carolina	1,071	989	843	+ 8%	+27%	26.7	8.7
North Dakota	148	101	134	+47%	+10%	23.7	7.4
Ohio	1,761	1,754	1,716	0	+ 3%	22.1	6.3
Oklahoma	577	501	523	+15%	+10%	25.9	7.4
Oregon	427	428	355	0	+20%	28.0	6.6
Pennsylvania	1,641	1,565	1,624	+ 5%	+ 1%	15.6	5.7
Rhode Island	64	79	58	—19%	+10%	8.1	3.0
South Carolina	725	677	548	+ 7%	+32%	34.2	12.0
South Dakota	156	178	134	—12%	+16%	23.6	4.5
Tennessee	808	747	676	+ 8%	+20%	24.5	8.9
Texas	2,546	2,410	1,957	+ 6%	+30%	33.0	7.6
Utah	207	188	174	+10%	+19%	29.8	7.7
Vermont	85	67	63	+27%	+35%	22.4	6.9
Virginia	999	915	810	+ 9%	+23%	30.1	9.4
Washington	540	502	441	+ 8%	+22%	22.7	6.3
West Virginia	365	370	356	— 1%	+ 3%	18.2	7.5
Wisconsin	789	831	749	— 5%	+ 5%	22.9	7.1
Wyoming	170	151	137	+13%	+24%	58.4	10.1

*Population rate is the number of deaths per 100,000 population. Mileage rate is the number of deaths per 100,000,000 vehicle miles.

Total deaths for 1949 from National Office of Vital Statistics. Death totals for 1950 and 1951 are National Safety Council estimates.

Individual state deaths reported by state traffic authorities, except for Louisiana, which was reported by the state registrar of vital statistics.

However, without specific crash-injury data, engineers cannot be expected to know mechanical factors responsible for common and needless dangers and therefore have no sound basis for judging either the desirability or need of undertaking safer design.

The importance of including reports on causes of injury in the investigation of automobile accidents is strongly suggested by early data from traffic casualty studies undertaken by the Crash Injury Research Division of the Indiana State Police; these data provide evidence that at least one out of ten, and possibly one out of five persons, are killed in survivable passenger car accidents because the door latches are inadequate.

It will take a considerable volume of statistical material to determine whether this condition occurs in only a few makes and models of cars—or whether it is common to many. The point is that, when sufficient crash-injury data are accumulated, judgment of the danger can be made and safer design can be considered.

Possibly the need of latches and hinges which will hold doors closed during reasonable stresses and strains on a car is not as important as early trends indicate. But possibly improvement of this one detail in automotive design will be of great importance to public safety on the highways—and perhaps this may be only one of many design details which contribute to a huge annual toll of unnecessary traffic casualties.

Today there is very limited evidence for judging what can be done to cut future casualty rates. Available estimates, however, are very suggestive. For example, of the 685,000 injured in passenger cars, the National Safety Council estimates that 87 per cent sustained their injuries in accidents at speeds of less than 40 miles per hour. These approximations do not present the possibility that 600,000 persons could have been spared injury entirely by safer design. But we should bear in mind that stunt drivers can and do protect themselves entirely at 35 miles per hour—and that crackups in airplanes at 40 miles an hour usually are regarded as low speed mishaps rather than dangerous crashes. These and other facts support the belief that much can be done, design-wise, to increase safety when common causes of injury are known.

The only way to get the facts is to extend the scope of accident-injury studies into the automotive field so that, in addition to having data on conditions causing *accidents*, data on objects and structures causing excessive *injury* will be available.

The need for such data brought about the inception of Crash Injury Research into the aviation field, where the art of packaging people to give optimum protection in accidents now is progressing rapidly. Unquestionably, much of the research on aircraft structures and many of the engineering methods now being developed to give crash protection in aircraft will be useful in future automotive safety design.

Renewed efforts to prevent *accidents* must be made but, at the same time, efforts should be made to cut the chances of *injury* in accidents. Thus, the huge national toll of traffic casualties may be reduced and safety may be increased for you and your families on the highways.

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OPERATION *Safety*

THE familiar roadside Burma-Shave signs that lighten the trip for many a weary motorist have one thing in common with July Operation Safety.

For the July theme—"Vacation Driving"—is designed, like the Burma-Shave jingles, to get to the vacation motorist both coming and going—and enroute as well.

Planned for use by local safety groups in their own traffic safety campaigns, the July kit—like all Operation Safety kits—provides varied materials, all usable and workable in the local traffic safety field.

Materials in the July kit are aimed at home-town vacationists who will soon be traveling in unfamiliar territory, as well as at visiting vacationists from out-of-town who may be driving through or stopping over to see the sights.

The materials are designed to prepare the vacation driver to learn the traffic laws of the states he'll be passing through, and they impress upon him the importance of considering himself an "ambassador of good will" as his car, bearing local license plates, carries him into "foreign territory."

Enroute, the vacation driver is supplied with valuable hints about the kinds of terrain he may expect in different parts of the country, while newspaper and radio materials emphasize the importance of making proper preparations.

Tips on welcoming out-of-state visitors to your town and suggestions that will make them cooperative in observing local traffic rules and regulations form another part of the July materials.

Leaflets, posters, radio materials, newspaper stories and editorials, film trailers and safety moving pictures all are utilized to the utmost to bring home the importance of safe vacation driving.

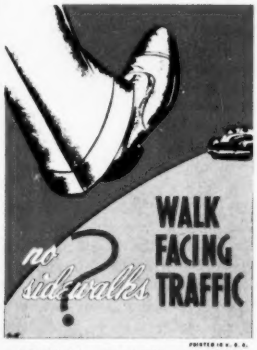
A sample copy of the July Vacation Driving Operation Safety kit may be obtained by writing Bob Shinn, Director, Operation Safety, National Safety Council, 425 No. Michigan Ave., Chicago 11, Ill.

TRAFFIC and MOTOR

TO MOTORISTS **TO PEDESTRIANS**

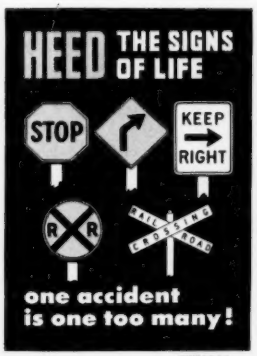
FOR JULY POSTING

NATIONAL SAFETY COUNCIL
T-9534-C **25x38**

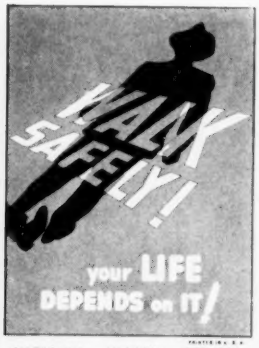


NATIONAL SAFETY COUNCIL
T-9026-B **17x23**

ADVANCE SHOWING FOR AUGUST POSTING



NATIONAL SAFETY COUNCIL
T-9554-C **25x38**



NATIONAL SAFETY COUNCIL
T-9555-B **17x23**

POSTER PRICES

Quantity	25"x38"	17"x23"	8½"x11½"
1-9	$0.29 ea.	$0.18 ea.	$0.09 ea.
10-99	.23 ea.	.15 ea.	.05 ea.
100-999	.19 ea.	.138 ea.	.046 ea.
1000-4999*	.17 ea.	.102 ea.	.034 ea.

(Posters on opposite page are double these prices to non-members of the National Safety Council.) YOUR CREDIT LINE can be imprinted (at the time of the press run) on any of the featured traffic posters of these sizes only: 25"x38" and 17"x23". Details on imprinting and deadline dates for imprinted orders will be sent on request. *Write for prices on quantities of 5,000 or more.

ANNUAL POSTER ORDERS. Write for special rates.

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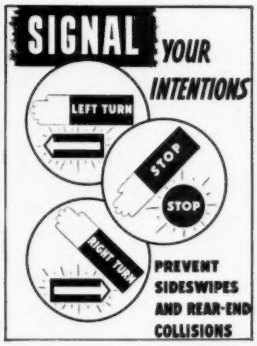


NATIONAL SAFETY COUNCIL

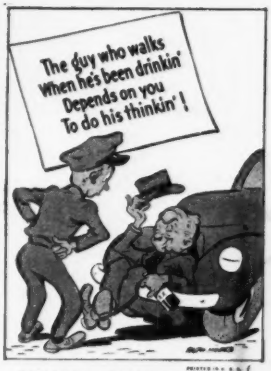
V-9574-B 17x23

NATIONAL SAFETY COUNCIL

V-9576-B 17x23

NATIONAL SAFETY COUNCIL

V-9575-A 8½x11½

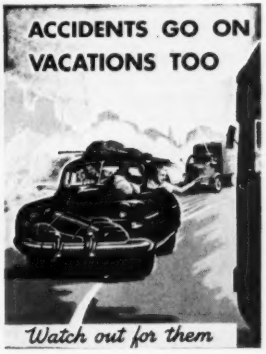


NATIONAL SAFETY COUNCIL

V-7932-A 8½x11½

NATIONAL SAFETY COUNCIL

V-8756-A 8½x11½



NATIONAL SAFETY COUNCIL

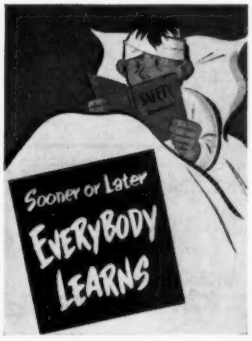
V-8057-A 8½x11½

NATIONAL SAFETY COUNCIL

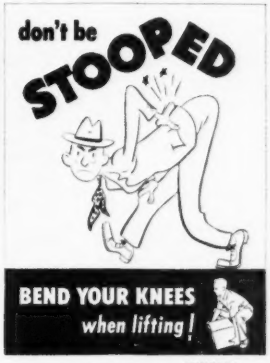
V-8065-B 17x23

NATIONAL SAFETY COUNCIL

V-8771-A 8½x11½



8990-A 8½x11½



NATIONAL SAFETY COUNCIL

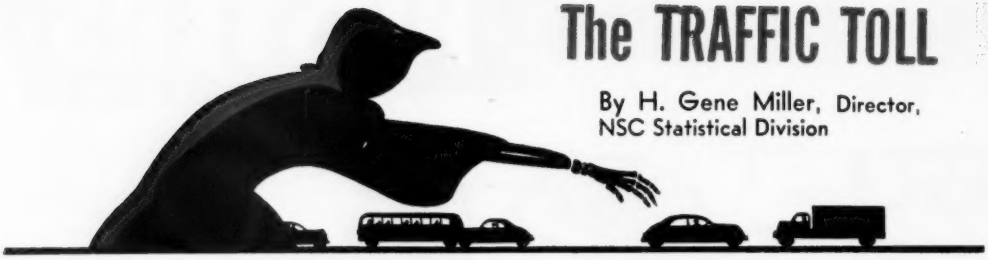
9577-B 17x23

NATIONAL SAFETY COUNCIL

8610-B 17x23

NATIONAL SAFETY COUNCIL

9569-A 8½x11½



The TRAFFIC TOLL

By H. Gene Miller, Director,
NSC Statistical Division

April traffic toll same as last year—2,610 as death rate drops despite increased travel. Four month toll reaches 10,650 only slightly higher than a year ago.

AUTO drivers and pedestrians didn't do any better in April, but then they didn't get any worse either.

Deaths due to auto accidents numbered the same in April of this year as in that month last year—2,610. It was the second consecutive month in which Council scorekeepers have marked "no change" on the books this year.

In fact, the only month this year to bring an increase in traffic deaths over the comparable month of the previous year was February, which went up 12 per cent. A large part of that increase, however, was due to Leap Year's extra day.

April traffic deaths totalled about 2,610—unchanged from last year.

This was the second month in a row that the death total was neither higher nor lower than a year ago.

At the end of four months, traffic deaths totalled about 10,650, only slightly higher than a year ago.

Motor vehicle travel in the first quarter of 1952 was significantly higher than last year. This change, coupled with only a slight increase in deaths for the first quarter brought marked improvement in the rate at which deaths occurred.

Among 44 states reporting April experience, 20 had fewer deaths than in April a year ago, 22 had more deaths and 2 reported no change.

For the first four months of the year, 21 states had fewer deaths than a year ago. These were:

	% Change
Vermont	—45%
Main	—34%
Minnesota	—27%
Iowa	—26%
Connecticut	—19%
Wyoming	—18%
Kansas	—17%
New Hampshire	—17%
Nevada	—15%
Utah	—10%
Montana	—10%
Michigan	— 9%
Mississippi	— 9%
Nebraska	— 9%
Idaho	— 9%
California	— 7%
Maryland	— 7%
North Dakota	— 6%
Massachusetts	— 4%
Colorado	— 4%
Indiana	— 3%

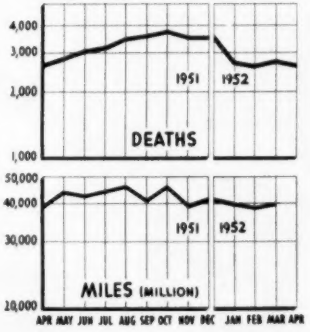
While the state reports showed no change in April deaths, 523 cities reported a 14 per cent increase.

MOTOR-VEHICLE DEATHS

MONTH	1950	1951	1952	1950-52 Change	1951-52 Change
January	2,470	2,820	2,680	+ 9%	— 5%
February	2,190	2,350	2,630	+20%	+12%
March	2,480	2,730	2,730	+10%	0
April	2,260	2,610	2,610	0	0
Four Months	9,760	10,510	10,650	+ 9%	+ 1%
May	2,750	2,820	.....	.....	.....
June	2,660	3,070	.....	.....	.....
July	3,160	3,150	.....	.....	.....
August	3,110	3,460	.....	.....	.....
September	3,210	3,580	.....	.....	.....
October	3,550	3,720	.....	.....	.....
November	3,230	3,500	.....	.....	.....
December	3,570	3,490	.....	.....	.....
TOTAL	35,000	37,300	.....	.....	.....

All figures are National Safety Council estimates. The 1952 national estimate is arrived at by assuming that the percentage change from 1951 to 1952 in the states reporting for both years reflects the 1951-52 change in the entire country. Since national estimates made in this way become more accurate as more states report, revisions are made from time to time as new reports are received for the various months. For this reason the figures given above for 1952 may differ slightly from figures for the same months which will be published in future issues of PUBLIC SAFETY.

MONTHLY MOTOR VEHICLE DEATHS AND TRAFFIC TRENDS 1951-1952

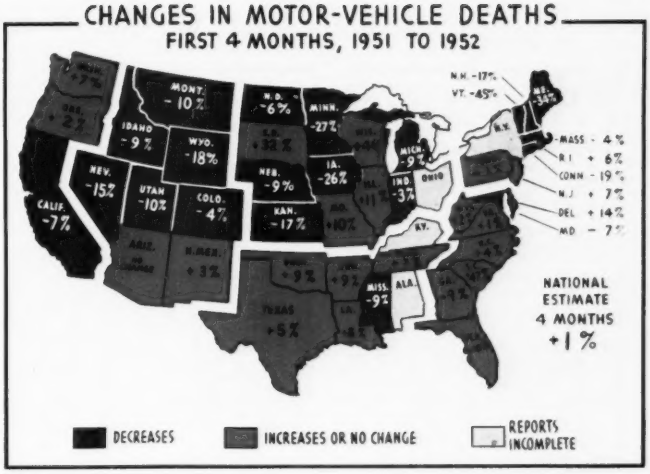


The increase was the fault of only 96 of the 523 cities, but many of these were large and their bad records had an important effect on the overall total. Ninety-four cities had decreases, and 333 reported no change.

Despite the poor records of some large cities, nearly three out of four reporting cities had perfect records during the month—377 of the 523. The three largest were Ft. Worth, Tex. (278,800); Omaha, Nebr. (251,100), and Oklahoma City, Okla. (243,500).

For the first four months of the year, 203 of the 523 cities still had perfect traffic records. The three largest were Des Moines, Ia. (178,000); Fall River, Mass. (112,000), and Little Rock, Ark. (102,200).

For this longer period, 160 cities had fewer deaths, 170 had increases and 193 showed no change.



TRAFFIC DEATHS—STATE RECORDS

Deaths are reported by state traffic authorities except for Louisiana, Michigan, New Mexico and Ohio which are reported by registrars of vital statistics.

Population Rate: U. S. population rate is the estimated annual number of deaths per 100,000 population, assuming that deaths for the rest of the year will follow the normal seasonal pattern. State population rate is the estimated annual number of deaths per 100,000 population, assuming that the monthly average of deaths will remain at the present average for the rest of the year. Population rates are based on the 1950 census.

States shown in heavy type have improved in 1952 compared with 1951 or showed no change. All figures are provisional.

Mileage Rate: The number of deaths per 100,000,000 vehicle miles of travel.

(Figure in parentheses following the 1952 mileage rate indicates the number of months for which the mileage rate is calculated for each state.)

	Months Reported	Deaths Identical Period 1952	Deaths Identical Period 1951	Deaths Identical Period 1950	% Changes 1951 to 1952	% Changes 1950 to 1952	1952 Pop. Rate	1952 Mile. Rate	
TOTAL									
U.S.	4	10,650	10,510	9,760	+ 1%	+ 9%	23.9	6.8	(3)
Ala.	3	146	139	140	+ 5%	+ 4%	19.1	7.9	(2)
Ariz.	4	**104**	**104**	97	**0**	**+ 7%**	**41.4**	**9.2**	(3)
Ark.	4	128	117	103	+ 9%	+ 24%	20.1	.....	.....
Calif.	4	**982**	**1,054**	**841**	**— 7%**	**+ 17%**	**27.8**	**6.8**	(2)
Colo.	4	**82**	**85**	**103**	**— 4%**	**— 20%**	**18.4**	**4.8**	(2)
Conn.	4	**64**	**79**	**86**	**— 19%**	**— 26%**	**9.5**	**3.1**	(3)
Del.	4	24	21	21	+ 14%	+ 14%	22.6	5.8	(3)
Fla.	4	330	299	304	+ 10%	+ 9%	35.5	8.6	(3)
Ga.	4	274	251	250	+ 9%	+ 10%	23.8	6.8	(2)
Idaho	4	**40**	**44**	**47**	**— 9%**	**— 15%**	**20.2**	.....	.....
Ill.	4	580	533	593	+ 11%	— 1%	20.2	5.9	(2)
Ind.	4	**336**	**345**	**310**	**— 3%**	**+ 8%**	**25.5**	**7.4**	(3)
Ia.	4	**123**	**167**	**142**	**— 26%**	**— 13%**	**14.0**	**4.4**	(3)
Kans.	4	**141**	**170**	**160**	**— 17%**	**— 12%**	**22.1**	**8.7**	(2)
Ky.	3	158	132	152	+ 20%	+ 4%	21.4	8.1	(2)
La.	4	196	181	172	+ 8%	+ 14%	21.9	7.5	(2)
Me.	4	**31**	**47**	**39**	**— 34%**	**— 21%**	**10.1**	**4.8**	(2)
Md.	4	**150**	**162**	**134**	**— 7%**	**+ 12%**	**19.1**	**6.9**	(2)
Mass.	4	**130**	**136**	**138**	**— 4%**	**— 6%**	**8.3**	**3.5**	(3)
Mich.	4	**422**	**462**	**410**	**— 9%**	**+ 3%**	**19.8**	**5.5**	(2)
Minn.	4	**109**	**150**	**103**	**— 27%**	**+ 6%**	**10.9**	**2.7**	(2)
Miss.	4	**137**	**151**	**153**	**— 9%**	**— 10%**	**18.8**	**6.2**	(2)
Mo.	4	290	265	239	+ 10%	+ 21%	21.9	.....	.....
Mont.	4	**44**	**49**	**39**	**— 10%**	**+ 13%**	**22.1**	**5.3**	(2)
Neb.	4	**86**	**94**	**68**	**— 9%**	**+ 26%**	**19.3**	**4.0**	(2)
Nev.	4	**29**	**34**	**24**	**— 15%**	**+ 21%**	**54.4**	**10.0**	(2)
N. H.	4	**15**	**18**	**14**	**— 17%**	**+ 7%**	**8.4**	**3.4**	(3)
N. J.	4	235	219	187	+ 7%	+ 26%	14.5	4.5	(2)
N. M.	4	109	106	94	+ 3%	+ 16%	47.3	11.5	(2)
N. Y.	5	420	448	403	— 6%	+ 4%	11.3	5.6	(3)
N. C.	4	307	295	294	+ 4%	+ 4%	22.9	8.0	(1)
N. D.	4	29	31	14	— 6%	+107%	13.9	.....	.....
Ohio	5	413	361	389	+ 14%	+ 6%	20.8	6.3	(2)
Okla.	4	165	151	140	+ 9%	+ 18%	22.2	.....	.....
Ore.	4	107	105	77	+ 2%	+ 39%	21.0	3.2	(1)
Pa.	4	474	468	446	+ 1%	+ 6%	13.5	5.7	(1)
R. I.	4	19	18	22	+ 6%	— 14%	7.2	1.6	(2)
S. C.	4	272	185	196	+ 47%	+ 39%	38.5	12.5	(2)
S. D.	4	37	28	47	+ 32%	— 21%	16.8	1.3	(2)
Tenn.	4	211	197	203	+ 7%	+ 4%	19.2	6.1	(2)
Texas	4	723	691	670	+ 5%	+ 8%	28.1	6.5	(3)
Utah	4	**64**	**71**	**44**	**— 10%**	**+ 45%**	**27.6**	.....	.....
Vt.	4	**12**	**22**	**13**	**— 45%**	**— 8%**	**9.5**	**3.2**	**(3)**
Va.	4	261	259	260	+ 1%	0	23.6	7.9	(2)
Wash.	4	151	141	104	+ 7%	+ 45%	19.0	5.3	(2)
W. Va.	4	117	115	104	+ 2%	+ 13%	17.5	7.2	(2)
Wis.	4	224	153	211	+ 46%	+ 6%	19.5	5.6	(2)
Wyo.	4	31	38	32	— 18%	— 3%	32.0	.....	.....
CANADIAN PROVINCES									
B. C.	3	23	33	19	— 30%	+ 21%	8.1	.....	.....
Man.	1	4	4	2	0	+100%	6.0	.....	.....
Ont.	2	119	104	86	+ 14%	+ 38%	15.8	.....	.....
Sask.	4	18	6	10	+200%	+ 80%	6.2	.....	.....

TRAFFIC DEATHS—CITY RECORDS

The table covers only motor-vehicle deaths resulting from traffic accidents that occurred in the city. Nontraffic motor-vehicle deaths (where the accident occurred on home or industrial premises) are not included; nor are deaths in the city from accidents occuring outside.

Rankings are based on the 1952 registration death rate which is the number per 10,000 registered vehicles on an annual basis. Vehicle registration figures are for the year 1951 and were supplied by R. L. Polk & Company.

Cities are ranked by death rates—from low to high. When two or more cities have exactly the same rate, ranking is by size of total vehicle registration — from large to small.

Cities shown in heavy type have improved in 1952 compared to 1951.

The population death rate is the number of deaths per 100,000 population on an annual basis. Populations are as of April, 1950.

	Four Months 1952	1951	1950	1952 Reg. Rate	1952 Pop. Rate
ALL REPORTING CITIES				2.9	9.3
Group I (1,000,000 and over)					
1. Detroit, Mich.	56	70	69	2.6	9.1
2. Los Angeles, Calif.	79	100	76	2.7	12.0
3. Philadelphia, Pa.	51	51	49	3.7	7.4
All cities in this group				4.0	9.3
4. Chicago, Ill.	142	140	131	4.8	11.8
5. New York, N. Y.	214	187	197	5.1	8.1
Group II (750,000 to 1,000,000)					
1. Washington, D. C.	18	22	22	2.8	6.7
2. San Francisco, Calif.	24	29	17	2.8	9.3
3. Boston, Mass.	15	21	20	2.9	5.6
4. Cleveland, Ohio	32	38	35	3.3	10.5
All cities in this group				3.5	8.9
5. Baltimore, Md.	37	34	28	4.9	11.7
Group III (500,000 to 750,000)					
1. Minneapolis, Minn.	8	10	7	1.2	4.6
2. Cincinnati, Ohio	8	27	21	1.6	4.8
3. Buffalo, N. Y.	11	17	20	1.9	5.7
4. Milwaukee, Wis.	14	12	23	2.2	6.6
All cities in this group				2.7	7.9
5. Houston, Tex.	24	22	22	3.5	12.1
6. Pittsburgh, Pa.	22	15	16	4.1	9.8
7. New Orleans, La.	20	20	16	4.9	10.5
Group IV (350,000 to 500,000)					
1. Dallas, Tex.	10	16	14	1.6	6.9
2. Denver, Colo.	12	13	17	2.2	8.7
3. San Antonio, Tex.	13	12	18	2.7	9.5
4. Kansas City, Mo.	12	11	7	2.7	7.9
5. Newark, N. J.	11	14	13	2.8	7.5
6. Seattle, Wash.	20	15	10	3.1	12.8
All cities in this group				3.1	11.5
7. Memphis, Tenn.	11	16	16	3.1	8.3
8. Columbus, Ohio	15	7	17	3.2	12.0
9. Indianapolis, Ind.	21	23	24	3.4	14.9
10. Portland, Ore.	21	10	13	3.6	16.9
11. Atlanta, Ga.	21	8	18	4.1	16.8
12. Louisville, Ky.	18	18	7	4.9	14.0
Group V (200,000 to 350,000)					
1. Providence, R. I.	2	2	5	0.7	2.4
2. Rochester, N. Y.	3	8	7	0.7	2.7
3. Omaha, Neb.	2	12	9	0.8	2.4
4. St. Paul, Minn.	4	10	8	1.0	3.9
5. Honolulu, T. H.	4	5	7	1.2	5.1
6. Fort Worth, Tex.	5	15	13	1.5	5.4
Syracuse, N. Y.	4	3	5	1.5	5.4
8. Oklahoma City, Okla.	9	7	7	2.3	11.1
All cities in this group				2.6	10.0
9. Richmond, Va.	7	5	9	2.8	9.1
10. Akron, Ohio	10	3	9	2.9	10.9
11. Worcester, Mass.	5	5	4	2.9	7.4
12. Dayton, Ohio	15	10	6	3.1	16.0
13. Toledo, Ohio	14	16	10	3.3	13.8
14. Long Beach, Calif.	15	15	13	3.4	15.6
15. Jacksonville, Fla.	9	7	12	3.7	13.2
16. Miami, Fla.	18	8	16	5.8	21.7
17. Birmingham, Ala.	12	16	14	4.0	11.0
18. Norfolk, Va.	8	9	8	5.0	11.2
19. San Diego, Calif.	25	18	16	5.6	20.6
Group VI (100,000 to 200,000)					
1. Des Moines, Ia.	0	7	7	0.0	0.0
2. Little Rock, Ark.	0	3	2	0.0	0.0
3. Fall River, Mass.	0	3	1	0.0	0.0
4. Wichita, Kans.	2	4	3	0.7	3.6
5. Berkeley, Calif.	1	0	3	0.7	2.6
6. Reading, Pa.	1	4	5	0.8	2.7
7. Allentown, Pa.	1	2	0	0.8	2.8
8. Elizabeth, N. J.	1	6	7	0.9	2.7
9. Waterbury, Conn.	1	1	3	1.0	2.9
10. Cambridge, Mass.	1	2	7	1.1	2.5
11. Trenton, N. J.	3	6	4	1.6	7.0
12. Charlotte, N. C.	3	8	3	1.6	6.7
13. Yonkers, N. Y.	2	3	3	1.6	3.9
14. Salt Lake City, Utah	4	13	5	1.7	6.6
15. Erie, Pa.	3	3	3	1.8	6.9
16. Austin, Tex.	3	4	0	1.8	6.8
17. Spokane, Wash.	4	8	6	1.8	7.4
18. Hartford, Conn.	3	8	6	1.9	5.1
19. Peoria, Ill.	3	3	4	1.9	8.0
20. Wilmington, Del.	3	2	2	1.9	8.2
21. Phoenix, Ariz.	6	6	4	2.0	16.9
22. Chattannoga, Tenn.	3	1	5	2.1	6.9
23. Pasadena, Calif.	4	3	9	2.2	11.5
24. New Bedford, Mass.	2	3	1	2.2	5.5
25. Bridgeport, Conn.	4	0	9	2.3	7.6
26. Grand Rapids, Mich.	7	2	5	2.4	12.0
27. South Bend, Ind.	4	1	4	2.4	10.4
28. Canton, Ohio	4	3	3	2.4	10.3
29. Youngstown, Ohio	5	5	6	2.5	8.9
All cities in this group				2.5	9.4
30. Sacramento, Calif.	7	4	5	2.7	15.3
31. Flint, Mich.	7	14	10	2.8	12.9
32. Duluth, Minn.	3	4	4	2.9	8.6
33. Springfield, Mass.	5	3	2	3.0	9.2
34. Utica, N. Y.	3	6	1	3.0	8.9
35. Fort Wayne, Ind.	6	3	5	3.1	13.5
36. Evansville, Ind.	5	3	3	3.1	11.7
37. New Haven, Conn.	5	4	7	3.4	9.1
38. Shreveport, La.	5	6	2	3.5	14.2
39. Somerville, Mass.	3	4	4	3.5	12.9
40. Corpus Christi, Tex.	6	8	0	3.9	16.6
41. Tampa, Fla.	7	9	2	4.0	16.9
42. Nashville, Tenn.	11	8	11	4.5	18.9
43. Baton Rouge, La.	7	1	3	4.5	16.7
44. Knoxville, Tenn.	7	6	8	4.8	16.8
45. El Paso, Tex.	8	7	6	5.3	18.4
46. Montgomery, Ala.	6	5	6	5.7	16.9
47. Gary, Ind.	16	16	9	12.2	35.8
Group VII (50,000 to 100,000)					
1. Kalamazoo, Mich.	0	1	3	0.0	0.0
2. Jackson, Mich.	0	0	2	0.0	0.0
3. Davenport, Ia.	0	1	4	0.0	0.0
4. Evanston, Ill.	0	2	3	0.0	0.0
5. Bay City, Mich.	0	3	1	0.0	0.0
6. Sioux Falls, S. D.	0	4	3	0.0	0.0
7. Oak Park, Ill.	0	1	2	0.0	0.0
8. Stamford, Conn.	0	6	2	0.0	0.0
9. Atlantic City, N. J.	0	0	2	0.0	0.0
10. Stockton, Calif.	1	6	2	0.6	4.2
11. Schenectady, N. Y.	1	4	2	0.7	3.3
12. Madison, Wis.	1	1	4	0.8	3.1
13. Raleigh, N. C.	1	3	2	0.8	4.6
14. Richmond, Calif.	1	2	9	0.8	3.0
15. Jackson, Miss.	1	4	5	0.9	3.1
16. Topeka, Kans.	1	3	0	0.9	3.8
17. Greensboro, N. C.	1	1	3	0.9	4.0
18. Binghamton, N. Y.	1	2	2	1.0	3.7
19. Lancaster, Pa.	1	1	1	1.1	4.7
20. Roanoke, Va.	1	1	2	1.1	3.3
21. Johnstown, Pa.	1	0	1	1.1	4.7
22. Pawtucket, R. I.	1	3	0	1.2	3.7
23. Dearborn, Mich.	2	8	7	1.2	6.3
24. Lynn, Mass.	1	0	4	1.2	3.0
25. Durham, N. C.	1	0	1	1.2	4.2
26. Wilkes-Barre, Pa.	1	3	1	1.2	3.9
27. Green Bay, Wis.	1	1	2	1.2	5.7
28. St. Petersburg, Fla.	2	6	4	1.3	6.2
29. Lakewood, Ohio	1	1	0	1.3	4.4
30. East Orange, N. J.	1	0	1	1.3	3.8
31. Lansing, Mich.	2	3	4	1.3	6.5
32. Mount Vernon, N. Y.	1	1	1	1.3	4.2
33. Lowell, Mass.	1	3	2	1.3	3.1
34. Manchester, N. H.	1	0	1	1.4	5.6
35. Aurora, Ill.	1	1	2	1.4	5.9
36. New Britain, Conn.	1	0	1	1.5	4.1
37. Covington, Ky.	1	2	0	1.5	4.7
38. Columbia, S. C.	2	1	1	1.5	6.9
39. Lincoln, Neb.	1	0	2	1.6	6.1
40. Wheeling, W. Va.	1	0	4	1.6	5.1
41. Lawrence, Mass.	1	0	2	1.6	3.7
42. Brockton, Mass.	1	1	3	1.7	4.8
43. Lubbock, Tex.	2	1	5	1.8	8.4
44. Charleston, W. Va.	2	1	4	1.8	8.2
45. Santa Monica, Calif.	2	4	1	1.9	8.4
46. Decatur, Ill.	2	4	3	1.9	9.0
47. Passaic, N. J.	1	1	1	1.9	5.2
48. Medford, Mass.	1	2	1	1.9	4.5
49. Pittsfield, Mass.	1	0	1	2.0	5.6
50. Pueblo, Colo.	2	2	2	2.0	9.4
51. Brookline, Mass.	1	1	0	2.0	5.2
52. Alexandria, Va.	2	1	2	2.1	9.7
53. Malden, Mass.	1	0	0	2.1	5.0
54. Cedar Rapids, Ia.	2	0	1	2.1	8.3
55. Pontiac, Mich.	3	2	6	2.1	12.2
56. Fresno, Calif.	5	2	4	2.2	16.4
All cities in this group				2.3	8.9
57. Hamilton, Ohio	2	1	1	2.4	10.3
58. Glendale, Calif.	4	2	1	2.6	12.5
59. St. Joseph, Mo.	2	2	1	2.6	7.6
60. Orlando, Fla.	3	2	2	2.6	17.2
61. Cicero, Ill.	2	4	4	2.7	8.9
62. Albuquerque, N. M.	5	7	5	2.8	15.5
63. Saginaw, Mich.	4	3	1	2.8	12.9
64. Portland, Me.	2	1	2	3.0	7.7
65. New Rochelle, N. Y.	2	0	0	3.1	10.1
66. Springfield, Ill.	4	4	4	3.2	14.7
67. Racine, Wis.	3	1	2	3.3	12.6
68. Joliet, Ill.	3	3	1	3.3	17.4
69. Muncie, Ind.	3	1	3	3.5	15.4
70. Cleveland Heights, O.	2	1	0	3.5	10.2
71. San Jose, Calif.	7	4	2	3.5	22.0
72. Sioux City, Iowa	4	2	1	4.1	14.5
73. Macon, Ga.	4	5	2	4.1	17.1
74. Charleston, S. C.	3	1	1	4.3	12.8
75. Springfield, Mo.	4	5	0	4.3	18.0
76. Quincy, Mass.	2	3	4	4.5	7.2
77. Waterloo, Iowa	4	1	3	4.5	15.8
78. Lorain, Ohio	3	2	0	4.6	17.4
79. Springfield, Ohio	5	2	2	4.7	19.1
80. Columbus, Ga.	4	4	0	4.9	15.1
81. San Bernardino, Calif.	6	4	3	5.2	28.5
82. Newton, Mass.	1	1	2	5.2	3.7
83. Clifton, N. J.	4	0	0	5.4	18.6
84. Alameda, Calif.	4	2	2	5.6	18.6
85. Terre Haute, Ind.	5	5	4	5.7	25.4
86. Winston-Salem, N. C.	7	0	3	6.0	23.9
87. Holyoke, Mass.	3	0	0	7.1	16.5
88. Portsmouth, Va.	5	3	2	8.1	18.8
89. Hammond, Ind.	7	9	3	8.4	24.0
90. East Chicago, Ind.	4	1	2	10.5	22.1
91. Gadsden, Ala.	5	1	1	13.7	26.9
Group VIII (25,000 to 50,000)					
1. West Allis, Wis.	0	1	0	0.0	0.0
2. Pensacola, Fla.	0	2	1	0.0	0.0
3. Mansfield, Ohio	0	0	1	0.0	0.0
4. Ann Arbor, Mich.	0	0	0	0.0	0.0
5. Elmira, N. Y.	0	1	0	0.0	0.0
6. Palo Alto, Calif.	0	1	1	0.0	0.0
7. Cheyenne, Wyo.	0	0	1	0.0	0.0
8. Poughkeepsie, N. Y.	0	1	1	0.0	0.0
9. Waukegan, Ill.	0	1	2	0.0	0.0
10. Zanesville, Ohio	0	2	2	0.0	0.0
11. Council Bluffs, Iowa	0	1	2	0.0	0.0
12. Appleton, Wis.	0	1	0	0.0	0.0
13. Newburgh, N. Y.	0	1	2	0.0	0.0
14. Rochester, Minn.	0	0	0	0.0	0.0
15. Lynchburg, Va.	0	0	1	0.0	0.0
16. Bloomington, Ill.	0	1	1	0.0	0.0
17. Wausau, Wis.	0	0	0	0.0	0.0
18. Sandusky, Ohio	0	2	1	0.0	0.0
19. Burlington, Ia.	0	0	1	0.0	0.0
20. Ithaca, N. Y.	0	0	0	0.0	0.0
21. Wauwatosa, Wis.	0	0	0	0.0	0.0
22. Rome, N. Y.	0	0	0	0.0	0.0
23. Danbury, Conn.	0	1	0	0.0	0.0
24. Barberton, Ohio	0	4	2	0.0	0.0
25. Kankakee, Ill.	0	1	1	0.0	0.0
26. Fond du Lac, Wis.	0	2	0	0.0	0.0
27. Fitchburg, Mass.	0	2	1	0.0	0.0
28. Bloomington, Ind.	0	1	1	0.0	0.0
29. Manitowoc, Wis.	0	0	0	0.0	0.0
30. Norwich, Conn.	0	0	0	0.0	0.0
31. Hackensack, N. J.	0	2	1	0.0	0.0
32. St. Cloud, Minn.	0	0	0	0.0	0.0
33. Torrington, Conn.	0	1	0	0.0	0.0
34. Manchester, Conn.	0	1	0	0.0	0.0
35. Watertown, Mass.	0	1	1	0.0	0.0
36. Everett, Mass.	0	1	1	0.0	0.0
37. Granite City, Ill.	0	0	1	0.0	0.0
38. West Orange, N. J.	0	0	0	0.0	0.0
39. New London, Conn.	0	0	1	0.0	0.0
40. New Kensington, Pa.	0	0	2	0.0	0.0
41. Petersburg, Va.	0	3	3	0.0	0.0
42. Lincoln Park, Mich.	0	0	1	0.0	0.0
43. Melrose, Mass.	0	1	0	0.0	0.0
44. Beverly, Mass.	0	1	1	0.0	0.0
45. Fairfield, Conn.	0	6	0	0.0	0.0

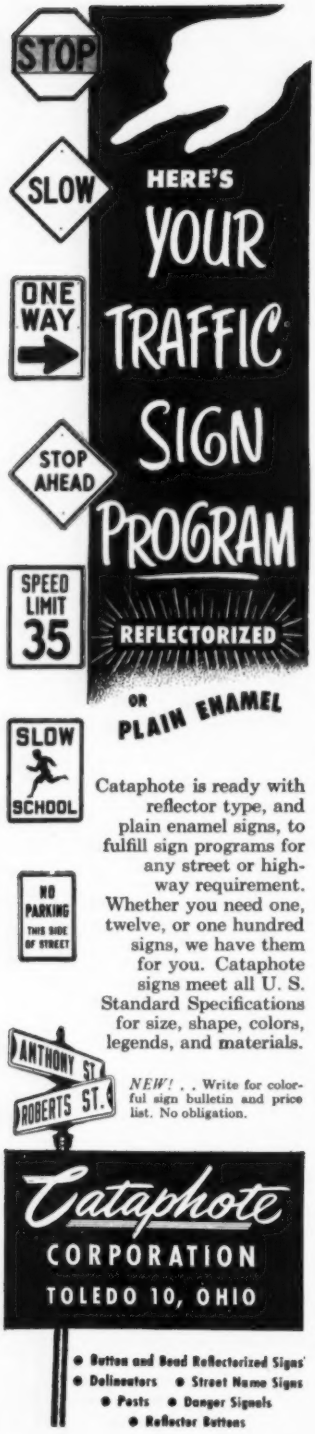
	Four Months 1952	1951	1950	1952 Reg. Rate	1952 Pop. Rate
46. Teaneck, N. J.	0	0	0	0.0	0.0
47. Mt. Lebanon, Pa.	0	0	0	0.0	0.0
48. Grand Forks, N. D.	0	0	0	0.0	0.0
49. Shaker Heights, Ohio	0	0	0	0.0	0.0
50. Belmont, Mass.	0	0	0	0.0	0.0
51. Northampton, Mass.	0	0	0	0.0	0.0
52. Gloucester, Mass.	0	0	2	0.0	0.0
53. Milford, Conn.	**0**	**2**	**2**	**0.0**	**0.0**
54. Battle Creek, Mich.	1	0	1	1.6	6.2
55. Muskegon, Mich.	**1**	**2**	**0**	**1.0**	**6.2**
56. Colorado Sps., Colo.	1	1	0	1.1	6.6
57. Riverside, Calif.	**1**	**6**	**1**	**1.2**	**6.4**
58. White Plains, N. Y.	1	0	0	1.5	6.9
59. Reno, Nev.	1	0	1	1.6	9.2
60. Billings, Mont.	1	0	1	1.6	9.4
61. Vancouver, Wash.	1	1	2	1.6	7.2
62. High Point, N. C.	1	0	0	1.6	7.5
63. Beverly Hills, Calif.	1	1	0	1.6	10.3
64. San Leandro, Calif.	1	1	2	1.7	10.9
65. Lafayette, Ind.	1	1	0	1.7	8.4
66. Dubuque, Iowa	**1**	**2**	**0**	**1.8**	**6.0**
67. Jamestown, N. Y.	**1**	**2**	**1**	**1.8**	**6.9**
68. Plainfield, N. J.	1	0	1	1.8	7.1
69. La Crosse, Wis.	**1**	**2**	**0**	**1.8**	**6.3**
70. Moline, Ill.	**1**	**2**	**3**	**1.8**	**8.0**
71. Enid, Okla.	**1**	**2**	**1**	**1.8**	**8.3**
72. Lakeland, Fla.	1	1	0	1.9	9.7
73. East Cleveland, Ohio	1	1	0	1.9	7.5
74. Middletown, Ohio	1	1	0	1.9	8.9
75. Marion, Ohio	1	0	2	2.1	8.9
76. Tallahassee, Fla.	1	0	0	2.2	11.0
77. W. Hartford, Conn.	1	0	0	2.2	7.8
78. Alliance, Ohio	1	0	0	2.2	11.5
79. Fargo, N. D.	1	0	2	2.3	7.8
80. Meriden, Conn.	1	0	0	2.3	6.8
81. Arlington, Mass.	1	0	1	2.3	6.8
All cities in this group				2.3	8.7
82. Daytona Beach, Fla.	1	1	1	2.3	9.0
83. Waltham, Mass.	1	0	2	2.4	6.4
84. Parkersburg, W. Va.	**1**	**3**	**1**	**2.4**	**10.1**
85. Watertown, N. Y.	1	0	1	2.4	8.7
86. Mason City, Iowa	1	0	1	2.5	10.7
87. Stratford, Conn.	1	1	1	2.5	9.0
88. Anderson, Ind.	**2**	**4**	**3**	**2.6**	**12.8**
89. Montclair, N. J.	1	0	0	2.6	6.8
90. Fairmont, W. Va.	1	1	3	2.6	10.2
91. Kingston, N. Y.	1	0	1	2.7	10.4
92. Rapid City, S. D.	1	0	1	2.8	11.9
93. Hamden, Conn.	1	1	0	2.8	10.1
94. Haverhill, Mass.	1	0	2	2.9	6.3
95. Greenwich, Conn.	1	1	2	3.0	7.4
96. Bangor, Me.	1	0	0	3.0	9.5
97. Oak Ridge, Tenn.	1	0	0	3.0	9.9
98. West Haven, Conn.	1	1	2	3.0	9.4
99. Winona, Minn.	1	1	0	3.2	12.0
100. Elkhart, Ind.	2	2	3	3.3	16.9
101. San Mateo, Calif.	2	2	1	3.3	14.4
102. East Hartford, Conn.	1	1	1	3.3	10.0
103. Boise, Idaho	3	0	0	3.3	26.2
104. Lake Charles, La.	2	2	0	3.4	14.5
105. Framingham, Mass.	1	1	1	3.5	10.7
101. Everett, Wash.	2	0	1	3.7	17.8
107. Highland Park, Mich.	**2**	**3**	**1**	**3.7**	**12.9**
108. Royal Oak, Mich.	3	0	1	3.7	19.2
109. Warren, Ohio	3	2	4	3.7	18.0
110. Great Falls, Mont.	2	0	0	3.8	15.5
111. Kearny, N. J.	1	1	3	3.8	7.5
112. Revere, Mass.	1	1	2	3.8	8.2
113. Concord, N. H.	1	1	0	3.8	10.7
114. Lr. Merion Twp., Pa.	**2**	**3**	**4**	**4.2**	**12.3**
115. Chelsea, Mass.	1	0	1	4.3	7.7
116. Danville, Va.	2	2	1	4.8	13.4
117. Steubenville, Ohio	2	1	0	4.9	16.7
118. Vallejo, Calif.	3	1	2	5.0	34.6
119. Warwick, R. I.	3	0	2	5.3	15.8
120. Linden, N. J.	2	1	1	5.4	19.6
121. Orange, N. J.	2	1	2	5.8	15.8
122. Oshkosh, Wis.	3	1	0	5.9	21.9
123. Salem, Mass.	2	0	0	5.9	14.3
124. Superior, Wis.	2	0	0	6.2	17.0
125. Eau Claire, Wis.	3	1	0	6.3	24.9
126. Wyandotte, Mich.	4	2	0	6.4	32.6
127. Newport News, Va.	3	0	0	6.5	21.2
128. Beloit, Wis.	3	0	2	6.8	30.4
129. Chicopee, Mass.	3	1	1	6.8	18.3
130. Middletown, Conn.	2	0	1	7.1	20.2
131. Hamtramck, Mich.	3	1	0	7.2	13.9
132. Tuscaloosa, Ala.	3	1	1	7.4	19.4
133. Ferndale, Mich.	3	1	1	7.6	30.3
134. Lockport, N. Y.	3	1	1	7.8	35.9
135. Taunton, Mass.	3	3	0	8.2	22.4
136. Portsmouth, Ohio	4	1	4	8.8	32.6
137. Bristol, Conn.	3	1	1	9.0	25.0
138. Euclid, Ohio	3	0	0	10.1	21.7
139. Weymouth, Mass.	1	1	2	11.4	9.2
140. Provo, Utah	4	1	0	11.8	41.5
141. Norwalk, Conn.	4	1	0	12.0	24.2

Group IX (10,000 to 25,000)

1. Kenmore, N. Y.	0	0	0	0.0	0.0
2. Birmingham, Mich.	0	0	0	0.0	0.0
3. Klamath Falls, Ore.	0	0	0	0.0	0.0
4. Kingsport, Tenn.	**0**	**1**	**0**	**0.0**	**0.0**
5. Monroe, Mich.	**0**	**1**	**2**	**0.0**	**0.0**
6. Butler, Pa.	**0**	**1**	**1**	**0.0**	**0.0**
7. Holland, Mich.	**0**	**1**	**2**	**0.0**	**0.0**
8. Ventura, Calif.	**0**	**2**	**1**	**0.0**	**0.0**
9. Uniontown, Pa.	**0**	**2**	**1**	**0.0**	**0.0**
10. Waukesha, Wis.	**0**	**2**	**0**	**0.0**	**0.0**
11. Salisbury, N. C.	0	0	0	0.0	0.0
12. Ypsilanti, Mich.	0	0	2	0.0	0.0
13. Austin, Minn.	0	0	0	0.0	0.0
14. Mankato, Minn.	0	0	1	0.0	0.0
15. Rock Hill, S. C.	0	0	0	0.0	0.0
16. East Detroit, Mich.	0	0	2	0.0	0.0
17. Freeport, Ill.	0	0	0	0.0	0.0
18. Sumter, S. C.	**0**	**2**	**0**	**0.0**	**0.0**
19. Rahway, N. J.	0	0	0	0.0	0.0
20. Chicago Heights, Ill.	**0**	**2**	**0**	**0.0**	**0.0**
21. Meadville, Pa.	0	0	0	0.0	0.0
22. Fremont, Ohio	**0**	**1**	**0**	**0.0**	**0.0**
23. Niles, Mich.	0	0	0	0.0	0.0
24. La Porte, Ind.	0	0	0	0.0	0.0
25. Ames, Iowa	0	0	0	0.0	0.0
26. East Liverpool, Ohio	0	0	1	0.0	0.0
27. Port Chester, N. Y.	**0**	**1**	**0**	**0.0**	**0.0**
28. La Grange, Ill.	0	0	1	0.0	0.0
29. Huntington, Ind.	0	0	1	0.0	0.0
30. Vincennes, Ind.	**0**	**2**	**0**	**0.0**	**0.0**
31. Bismarck, N. D.	0	0	1	0.0	0.0
32. Streator, Ill.	**0**	**1**	**0**	**0.0**	**0.0**
33. Albert Lea, Minn.	0	0	0	0.0	0.0
34. Marietta, Ohio	**0**	**1**	**0**	**0.0**	**0.0**
35. Goshen, Ind.	0	0	1	0.0	0.0
36. So. St. Paul, Minn.	0	0	1	0.0	0.0
37. Kinston, N. C.	0	0	0	0.0	0.0
38. Hazel Park, Mich.	0	0	0	0.0	0.0
39. Grosse Pte. Pk., Mich.	**0**	**1**	**1**	**0.0**	**0.0**
40. So. Portland, Me.	0	0	0	0.0	0.0
41. Stillwater, Okla.	0	0	0	0.0	0.0
42. Brainerd, Minn.	0	0	0	0.0	0.0
43. Johnson City, N. Y.	0	0	0	0.0	0.0
44. Sterling, Ill.	0	0	0	0.0	0.0
45. McAlester, Okla.	0	0	0	0.0	0.0
46. Astoria, Ore.	0	0	1	0.0	0.0
47. Highland Park, Ill.	0	0	0	0.0	0.0
48. Leominster, Mass.	**0**	**1**	**1**	**0.0**	**0.0**
49. No. Adams, Mass.	**0**	**1**	**1**	**0.0**	**0.0**
50. Peru, Ind.	0	0	0	0.0	0.0
51. Lake Worth, Fla.	**0**	**1**	**0**	**0.0**	**0.0**
52. Natick, Mass.	**0**	**4**	**0**	**0.0**	**0.0**
53. Fostoria, Ohio	0	0	1	0.0	0.0
54. Highland Park, Tex.	0	0	0	0.0	0.0
55. Richfield, Minn.	0	0	0	0.0	0.0
56. Cranford, N. J.	0	0	0	0.0	0.0
57. Jeffersonville, Ind.	**0**	**1**	**1**	**0.0**	**0.0**
58. Peabody, Mass.	**0**	**2**	**0**	**0.0**	**0.0**
59. Stevens Point, Wis.	0	0	1	0.0	0.0
60. Moorhead, Minn.	0	0	0	0.0	0.0
61. Alpena, Mich.	0	0	1	0.0	0.0
62. Watertown, Wis.	0	0	1	0.0	0.0
63. Garden City, Kans.	**0**	**1**	**0**	**0.0**	**0.0**
64. Fergus Falls, Minn.	**0**	**2**	**0**	**0.0**	**0.0**
65. Norfolk, Neb.	0	0	0	0.0	0.0
66. Owatonna, Minn.	0	0	0	0.0	0.0
67. Attleboro, Mass.	0	0	0	0.0	0.0
68. St. Augustine, Fla.	0	0	0	0.0	0.0
69. Niles, Ohio	**0**	**1**	**0**	**0.0**	**0.0**
70. Shorewood, Wis.	0	0	1	0.0	0.0
71. Elmwood Park, Ill.	**0**	**1**	**0**	**0.0**	**0.0**
72. East Haven, Conn.	0	0	0	0.0	0.0
73. Muskegon Hts., Mich.	**0**	**1**	**1**	**0.0**	**0.0**
74. Bemidji, Minn.	0	0	0	0.0	0.0
75. Lexington, Mass.	**0**	**2**	**1**	**0.0**	**0.0**
76. River Rouge, Mich.	0	0	0	0.0	0.0
77. Windham, Conn.	0	0	0	0.0	0.0
78. Hawthorne, N. J.	0	0	0	0.0	0.0
79. Winchester, Mass.	0	0	0	0.0	0.0
80. Annapolis, Md.	0	0	0	0.0	0.0
81. Logan, Utah	**0**	**2**	**0**	**0.0**	**0.0**
82. Gardner, Mass.	**0**	**3**	**1**	**0.0**	**0.0**
83. Westport, Conn.	**0**	**1**	**0**	**0.0**	**0.0**
84. Naugatuck, Conn.	0	0	0	0.0	0.0
85. Beaver Dam, Wis.	0	0	0	0.0	0.0
86. Wakefield, Mass.	0	0	1	0.0	0.0
87. Southbridge, Mass.	0	0	0	0.0	0.0
88. Saugus, Mass.	0	0	3	0.0	0.0
89. Brookfield, Ill.	0	0	0	0.0	0.0
90. Mitchell, S. D.	0	0	1	0.0	0.0
91. Hornell, N. Y.	0	0	0	0.0	0.0
92. Rye, N. Y.	0	0	1	0.0	0.0
93. Connersville, Ind.	0	0	0	0.0	0.0
94. Red Wing, Minn.	0	0	0	0.0	0.0
95. Fort Madison, Iowa	**0**	**2**	**0**	**0.0**	**0.0**
96. Norwood, Mass.	**0**	**1**	**3**	**0.0**	**0.0**
97. Vernon, Conn.	0	0	1	0.0	0.0
98. Mansfield, Conn.	0	0	0	0.0	0.0
99. River Forest, Ill.	0	0	0	0.0	0.0
100. Massena, N. Y.	0	0	0	0.0	0.0
101. Ansonia, Conn.	0	0	1	0.0	0.0
102. Whitefish Bay, Wis.	0	0	0	0.0	0.0
104. Dyersburg, Tenn.	0	0	0	0.0	0.0
105. Winthrop, Mass.	0	0	1	0.0	0.0
106. Needham, Mass.	**0**	**1**	**0**	**0.0**	**0.0**
107. Reading, Mass.	0	0	0	0.0	0.0
108. Virginia, Minn.	0	0	0	0.0	0.0
109. Bristol, Va.	0	0	0	0.0	0.0
110. Milton, Mass.	0	0	0	0.0	0.0
111. Wethersfield, Conn.	0	0	0	0.0	0.0
112. Ironwood, Mich.	0	0	0	0.0	0.0
113. Danvers, Mass.	0	0	0	0.0	0.0
114. Two Rivers, Wis.	0	0	0	0.0	0.0
115. La Salle, Ill.	0	0	1	0.0	0.0
116. Swampscott, Mass.	0	0	0	0.0	0.0
117. Darien, Conn.	**0**	**2**	**2**	**0.0**	**0.0**
118. Marlborough, Mass.	0	0	0	0.0	0.0
119. Branford, Conn.	**0**	**1**	**0**	**0.0**	**0.0**
120. Newburyport, Mass.	**0**	**1**	**1**	**0.0**	**0.0**
121. Ridgefield Pk., N. J.	0	0	0	0.0	0.0
122. Windsor, Conn.	**0**	**1**	**0**	**0.0**	**0.0**
123. Winchester, Conn.	**0**	**1**	**0**	**0.0**	**0.0**
124. Fairhaven, Mass.	0	0	0	0.0	0.0
125. Adams, Mass.	0	0	0	0.0	0.0
126. Webster, Mass.	0	0	0	0.0	0.0
127. Ashland, Wis.	0	0	0	0.0	0.0
128. So. Milwaukee, Wis.	0	0	1	0.0	0.0
129. Stoughton, Mass.	0	0	1	0.0	0.0
130. Derby, Conn.	0	0	0	0.0	0.0
131. Easthampton, Mass.	0	0	0	0.0	0.0
132. Groton, Conn.	**0**	**1**	**0**	**0.0**	**0.0**
133. Amesbury, Mass.	0	0	0	0.0	0.0
134. Amherst, Mass.	0	0	1	0.0	0.0
135. Watertown, Conn.	**0**	**1**	**1**	**0.0**	**0.0**
136. Stonington, Conn.	**0**	**1**	**2**	**0.0**	**0.0**
137. Northbridge, Mass.	0	0	0	0.0	0.0
138. Enfield, Conn.	**0**	**1**	**1**	**0.0**	**0.0**
139. Barnstable, Mass.	0	0	0	0.0	0.0
140. Benton Harbor, Mich.	1	1	0	2.0	16.0
All cities in this group				2.0	8.5
141. Walla Walla, Wash.	**1**	**2**	**0**	**2.5**	**12.4**
142. Chillicothe, Ohio	1	0	1	2.6	14.9
143. Longview, Wash.	1	1	0	2.9	14.8
144. Richland, Wash.	1	0	0	3.0	13.8
145. Statesville, N. C.	1	0	0	3.2	17.8
146. Modesto, Calif.	3	0	3	3.2	51.7
147. St. Louis Pk., Minn.	1	1	0	3.3	13.3
148. Minot, N. D.	1	1	2	3.5	13.6
149. W. Springfield, Mass.	**1**	**3**	**1**	**3.9**	**14.7**
150. Reidsville, N. C.	1	1	0	4.0	25.6
151. Webster Groves, Mo.	1	0	0	4.2	12.8
152. Greenfield, Mass.	1	0	0	4.5	17.3
153. Faribault, Minn.	1	1	1	4.6	18.8
154. Central Falls, R. I.	1	0	0	5.0	12.7
155. Janesville, Wis.	2	1	1	5.2	24.1
156. Wallingford, Conn.	1	0	2	5.2	17.6
157. Braintree, Mass.	1	1	0	5.3	12.9
158. St. Joseph, Mich.	1	1	0	5.3	29.4
159. Mamaroneck, N. Y.	1	0	2	5.3	20.0
160. East Moline, Ill.	1	0	1	5.3	21.6
161. Atchison, Kans.	**1**	**2**	**0**	**5.4**	**23.4**
162. Winnetka, Ill.	1	0	0	5.4	24.8
163. Escanaba, Mich.	1	0	0	5.5	19.7
164. Dedham, Mass.	1	1	0	5.7	16.2
165. Charles City, Iowa	1	0	0	5.7	29.1
166. Calumet City, Ill.	1	0	1	5.9	19.0
167. Marblehead, Mass.	1	1	0	5.9	21.7
168. Owosso, Mich.	2	1	0	6.8	37.7
169. Milford, Mass.	1	0	0	7.1	19.5
170. Stoneham, Mass.	1	0	1	7.3	22.7
171. Beacon, N. Y.	1	0	0	7.4	21.4
172. Andover, Mass.	1	1	4	7.4	24.2
173. No. Attleboro, Mass.	1	0	0	7.6	24.8
174. Hingham, Mass.	1	0	0	7.6	28.0
175. Plymouth, Mass.	1	0	1	7.6	22.1
176. Frankfort, Ind.	2	1	0	7.7	46.0
177. Athol, Mass.	1	0	0	8.1	25.9
178. Shrewsbury, Mass.	1	0	0	8.1	28.3
179. Wellesley, Mass.	1	0	1	8.5	14.6
180. Westfield, Mass.	2	0	0	8.5	28.6
181. Killingly, Conn.	**1**	**2**	**1**	**8.6**	**30.0**
182. Woburn, Mass.	2	0	1	8.7	29.5
183. Las Vegas, Nev.	4	3	1	8.8	48.8
184. Bristol, Pa.	2	0	0	9.0	47.2
185. Westfield, N. J.	3	0	0	9.1	42.5
186. Sault Ste. Marie, Mich.	2	0	0	10.2	55.5
187. Agawam, Mass.	1	0	1	12.9	29.4
188. Middleborough, Mass.	2	0	1	13.7	58.8
189. Ecorse, Mich.	2	1	1	14.5	53.5
190. Methuen, Mass.	4	1	0	16.2	49.0
191. Southington, Conn.	**2**	**3**	**1**	**18.7**	**45.8**
192. Griffin, Ga.	5	0	0	20.6	107.1
193. South Hadley, Mass.	1	1	0	23.3	29.7
194. Billerica, Mass.	2	1	0	25.8	54.1
195. Shelton, Conn.	4	1	0	26.2	94.5
196. Clinton, Mass.	3	0	0	28.1	73.2
197. Dartmouth, Mass.	1	1	0	100.0	27.0

CANADIAN CITIES

Vancouver, B. C.	4	6	9		3.5
Montreal, Que.	18	24	25		5.3
Toronto, Ont.	14	18	10		6.2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The Enforcement Job—Vancouver, B. C.

From Page 11

program, whether in relation to traffic control or any other branch of policing, must have the whole-hearted cooperation and support of the public at large. In dealing with our traffic problem, particularly in view of the many new regulations which had to be imposed, it was necessary to act with a certain amount of restraint.

No good purpose would be achieved by antagonizing the public with a sudden and rigid enforcement policy, and so at first we followed a procedure of warnings, except, of course, in the case of flagrant violations.

Some of our Traffic Division cars were equipped with public address systems, and these vehicles cruised the streets in the downtown area directing the attention of motorists and pedestrians to violations and requesting their cooperation in the police effort to improve the traffic situation. This was enforcement with kid gloves, and it went a long way toward securing public cooperation and support.

Due warning of our intention to enforce all traffic regulations vigorously was given in the press, and, possibly due to the fact that our accident total for the preceding year had reached the staggering figure of 8,827—(an item which the press had freely publicized) the announcement of our enforcement program aroused no critical comment.

Our enforcement program was concentrated on hazardous moving offenses, but drivers were checked for every offense noted. All uniformed officers were briefed for strict enforcement, and the whole departmental effort soon filled our courts.

Previously, one afternoon a week had been set aside for the hearing of traffic cases, but in view of the large number of cases now coming in, it was obvious other arrangements would have to be made. An additional magistrate was appointed to hear traffic cases exclusively, and his court sits every week day. Beat and traffic officers are assigned a specific traffic court day, and they are required to issue tickets returnable on that particular day. By this method, the possibility of all beats being left unattended at the same time as the result of personnel attending court is avoided.

One particular phase of our enforcement activity dealt with Selective Enforcement. Traffic accident reports from high accident frequency locations were carefully checked to ascertain the causes of accidents as reported by the drivers themselves. At some locations, failing to signal would appear as the chief contributory case. Other locations would show speeding or failure to observe traffic signs and signals as the chief cause. Whatever the cause, officers were detailed to these high accident frequency points with instructions to watch for the particular violation and all offenders were cited. This particular activity has proved most effective in reducing the number of accidents at high frequency points.

Our education through enforcement program was not confined to motorists alone. Far too many pedestrians were being killed and injured on our streets, and a determined effort was made to stop the practice of jaywalking. Many tickets were issued for this violation, with the result that today, comparatively few pedestrians venture to cross downtown streets in the middle of a block, or cross at intersections against the red light. Our bylaw prohibiting jaywalking has teeth in it, and officers are empowered to arrest citizens who refuse to give their name and address for summons purposes.

The problem presented by the drinking driver was also vigorously tackled. Examination of traffic accident records showed only too vividly and tragically the havoc caused by this class of driver, particularly during holiday periods.

In December, 1950, the disposition of our Traffic Division personnel was re-organized to provide greater supervision on the streets during the weekend evening hours. Officers were instructed to watch for signs of danger that might exist arising from the drinking habits of some motorists.

By the end of January, 1951, 37 drivers had been arrested for driving while under the influence, an arrest increase for this offense of more than 100 per cent over the previous year. Five times as many persons, who obviously had been drinking, were prevented from driving their cars in traffic. To equip the augmented Traffic Division personnel assigned to this work, we had to press into service some of our old spare cars from which sirens and red lights had been removed.

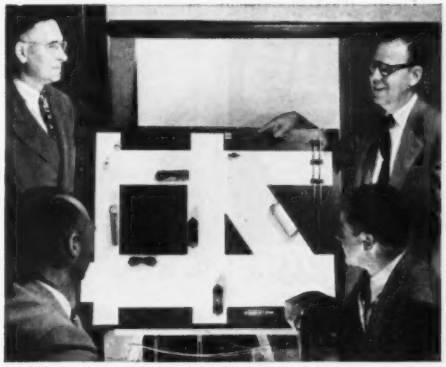
We found that by far the greater percentage of arrests was made by the officers working in these old, unmarked cars. Here then, was a thought. If unmarked vehicles were so effective in the work of controlling the drunken driver, why shouldn't they prove equally effective in controlling that other menace on our streets—the speeder? It was worth a try, and early last year, when new equipment was being ordered, arrangements were made to obtain cars of various colors, some of which were put into service without the usual police apparatus, sirens and red lights.

Police reading PUBLIC SAFETY will be interested to learn the reaction of the public to this innovation after the cars had been in service and the effect of their work had become known. One prominent official of a city organization severely criticized the police department, expressing his personal opinion that these were unfair methods on the part of the police. His criticism was prominently featured in the local press and immediately caused a controversy and the usual rash of letters to the editor on this subject. By far the majority of public opinion expressed by letter was in support of this move by the police, which goes to prove that when the public understands and realizes that police action is taken solely for their protection, they are sympathetic to and in favor of the methods adopted.

Results of the police effort are shown by the fact that speeding on our streets has been greatly reduced, and accident reports indicate that the extent of injuries suffered by accident victims during the past year has been less severe than formerly, which in itself is evidence that a more reasonable rate of speed is now being observed.

Traffic statistics show that in the year 1951 in the City of Vancouver, we had a total of 8,137 accidents in which 31 persons were killed. In 1950 there were 8,163 accidents and 47 persons killed. The improvement is slight, but encouraging.

It is the intention of the Vancouver Police Department to maintain its policy of rigid enforcement, and this, coupled with the efforts of the engineering department and those interested in the traffic safety educational program, plus the cooperation of our citizens generally, should result in our city being able to establish an even better traffic accident record in 1952.



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A Capital Job of Traffic Control

From Page 13

tional flow in one lane has proved to be a spectacular success.

Following an extensive study of the problem of commuting vehicular traffic between the city and the suburban area to the northeast, it was decided to widen an existing underpass from 30 to 36 feet and thus provide three lanes instead of two. The widening was to be a small part of a major construction project which would consist principally of a new 4-lane underpass complete with grade separations for nearby streets.

Pending completion of the new underpass, the traffic engineer proposed that the center lane of the existing underpass be arranged to handle traffic in either one direction, or the other, as required, but that the flow be restricted to only one direction at any given time because of the hazard of short sight distances, heavy volumes, and relatively high speeds. To accomplish positive control of the traffic in each lane, the lane lines are constructed with traffic bar (a precast bar 3½ inches high, 8 inches wide at the base and beveled on a 45-degree angle from bottom to top) instead of paint. Upon entering the underpass in one traffic lane, a vehicle must remain in that lane until it leaves the underpass. At each end an approach about 300 feet long has been installed using a series of white reflectorized markers which can set in either of two positions. In one position they shunt all approaching traffic out of the left-hand lane and into the right-hand lane, while in the other position they permit traffic in the left lane of the 2-lane approach to follow the center lane through the underpass. In addition, traffic signals are mounted over each traffic lane approaching the underpass to warn drivers whether the center lane is open or closed to travel in the direction they are traveling.

In operation the center lane is used for westbound (inbound toward town) travel for 22 hours each weekday and 24 hours on Saturdays, Sundays and holidays. The characteristics of the peak flow require that the center lane direction be westbound to handle a large volume which moves between 4 and 5 p.m. At 5 p.m. the peak eastbound travel begins and continues until about 6:30 p.m. Changing the direction of flow in the center lane requires about 10 minutes of one man's time, during which he resets the approach markers and changes the signals at both ends. During the change the center lane is actually closed to traffic for a few minutes.

When plans for the third lane were announced, much criticism was voiced, and there were few outside the traffic engineer's staff who indicated any confidence in the control. In use for the past six months it has proved to be completely successful and has eliminated much of the congestion. With only one lane available the highest quarter-hour flow in one direction had been 350 vehicles. After the third lane was placed in operation, the highest quarter-hour in the same direction has been 460 vehicles. Opening of the third lane has not solved all of the problems at this location; street grade separations and another underpass will be required for that, but it has eliminated about 75 per cent of the peak-hour congestion and made it possible for the underpass to handle an increased volume of traffic.

Studied effort is put forth continuously to relieve congestion and reduce accidents at specific locations where either of these symptoms or (usually) both appear to be of an unwarranted magnitude. Such studies usually start with a glance at the 6-foot square map on the traffic engineer's wall where all motor vehicle accidents are plotted on an annual basis. An intersection suddenly blooming with many pins is subjected to minute scrutiny which includes analysis of all accidents for a period of several years, the number of vehicles entering the intersection from each direction, and, if indicated, the number and direction of turning movements, approach speeds of vehicles in the intersection, pedestrian traffic, and existing physical conditions, including traffic controls and any possible view obstructions. As a result of these studies, channelization designs have been prepared for more than 30 intersections during the past three years and some 20 have been constructed to date.

Intersection channelization ranges all the way from a simple triangular dividing strip, which effectively separates right turns from left turns, to complicated treatments of 5-leg intersections which permit free right turns in several directions and provides much needed protection for pedestrians across wide expansions of intersection area. Frequently the intersection study shows that some lesser improvements are needed, and these may range from installing additional traffic signal

heads, through installation of stop signs, to the simple pruning of shrubbery to improve the view across a corner.

In preparing a complete revision of the city's traffic ordinance, which was originally dated June, 1922, the traffic engineer was successful in securing City Council approval for a clause which would permit the clearing of corners of minor view obstructions such as shrubbery and signs. The completely revised traffic ordinance was adopted by the City Council in the spring of 1951, and under the "view obstruction" clause, the staff of the traffic engineer was able to eliminate more than 250 view obstructions during the succeeding four months.

An origin and destination survey of the Sacramento area made during 1947-48 showed that there were about 22,440 trips per day into the central business district competing for about 3,240 parking spaces available at the curb and in off-street facilities. This confirmed long-standing complaints by both motorists and merchants that adequate parking space was not available in the central business district.

Early in 1948 extended discussion of the parking situation had resulted in a charter amendment being placed before the voters to allow the city to purchase and operate off-street parking facilities. Approved by an overwhelming majority at the fall election, the amendment met the first of many obstacles when it was found necessary for the State Legislature to pass enabling laws. Although progress toward establishment of publicly-operated parking lots has been slow, it has continued steadily and cars were finally parked on city-operated lots in the late summer of 1951.

Present plans call for the full development of two 300-car parking lots within a few blocks of the heart of the central business district. When this development has been completed, it is expected that study will be undertaken for the selection of additional off-street parking sites. While progress in the establishment of publicly-owned off-street parking facilities has been slow, it has been unavoidably so because of the pioneering that has been required in acquisition procedure.

Funds for the purchase and development of the lots are secured from the sale of revenue bonds which are supported solely by the revenue from the parking lot operation plus a quarter of the net income from the city's parking meters.

Traffic flow through the city has been materially improved by the institution of a large number of minor improvements. During the past three or four years more than a half-dozen new arterial streets have been added, and lane stripes are maintained on all arterials. On the most heavily traveled arterials, it has been found that properly maintained lane stripes make it possible to move four lanes of traffic on an effective street width of 34 feet.

The number of traffic signals operating within the city has been more than doubled during the past six years and about 80 per cent of all signals are synchronized for progressive movement. On five of the most heavily traveled arterials, including one pair of one-way streets, traffic signals have been interconnected, and on the remainder synchronization is maintained by power cycle. A continuing program of physical interconnection is being carried out as funds are available. In isolated locations the use of traffic actuated and semi-traffic actuated signals have met with considerable success.

Parking restrictions, although they have been used sparingly, have proved useful in several instances. Because of the short duration and high volume of the traffic flow peaks, it appears that good results can be obtained with parking restrictions applied in selective locations and during the peak hours. In an effort to reduce the number of obstacles to free flow on arterials, the length of bus zones have been increased and establishment of bus stops has been standardized, using farside stops exclusively in the downtown area and at signalized intersections throughout the city generally. Curb loading zones for both freight and passengers have been lengthened as a means of encouraging drivers to stop their vehicles out of the stream of traffic. Curb parking near intersections is being prohibited in order to open the view for both drivers and pedestrians, and to ease the congestion caused by right turns.

The regulation of private driveways was assigned to the traffic engineer about three years ago. Since that time standards have been established and enforced in the granting of access to city streets from private property. Through these regulations, it has been possible further to reduce the obstructions to free traffic flow on the streets.

THUNDERBOLT

NEW! DIRECTIONAL BEAM SIREN

- Rotates Through Full 360°
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Like a mighty searchlight, Federal's new and radically different siren beams super-powered sound through every point of the compass! The Thunderbolt sounds at maximum pitch or may be run up and down scale with no loss of full sound volume at lower pitches thanks to Federal's supercharger principle! Since lower pitches penetrate obstacles better, the Thunderbolt can often be heard in places that conventional sirens fail to reach.

Tests that produced decibel levels from 126-140 at a distance of 100 feet . . . prove the Thunderbolt to be the most powerful siren per horsepower (10 H.P.) ever produced!

The Thunderbolt is mechanically and electrically simple, dependable and as trouble-free as conventional sirens. Both rotation and pitch are controllable. Height is optional within reasonable limits. Supercharger can be located inside, with the projector and rotator extending above roof if desired.

Thanks to its great range and 360° coverage, the Thunderbolt is the ideal solution to your municipal fire alarm needs as well as providing superior leadership for your air-raid system.

Write now for Thunderbolt Bulletin

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TRADE PUBLICATIONS

There is a wealth of valuable and interesting information in the catalogs and publications listed below. They form splendid additions to your reference library, affording an opportunity to keep abreast of safety equipment. The coupon below will bring FREE to those responsible for the recommendation or purchase of equipment any or all of the catalogs listed.

1. "Six Steps to Better Braking for Truck Trailers": New folder gives important tips on driver safety through synchronized braking. Explains the precise operation hook-up and safety features of electric braking for truck trailers. *Warner Electric Brake & Clutch Co.*

2. Emergency Light: A catalog illustrating portable red flasher emergency light for motor vehicle drivers in case of mishaps or breakdowns on the road after dark. *Auto Lamp Mfg. Co.*

3. Directional Signals: Literature on signal lights with direction arrows with new lucite lenses for all types of motor vehicles. *R. E. Dietz Co.*

4. Traffic Line Markers: Literature on "Safe-T-Cone" street barricades for traffic control. Illustrates use for emergency blockades, street and highway repairs, traffic channeling, etc. *Radiator Specialty Co.*

5. School Crossing Signal: Pamphlet illustrating pedestrian operated double headed safety signal light for controlling traffic at school crossings. A 4-way traffic cycle with push button control. *Crown Signals, Inc.*

6. "Lucky You": A new booklet on street and highway accident data. Sixteen Tables give statistics on types of accidents classified as to action of drivers and pedestrians; age groups; operating experience; weather conditions, etc. *The Travelers Insurance Co.*

7. Traffic Signs: A new bulletin illustrating and describing all types of reflectorized and plain traffic signs. Four types of reflectorized signs are shown such as reflectorized button, bead, sheeting and silver reflecting panel. Other types include embossed and plain lettering for all parking school installations and street name signs. *Cataphote Corp.*

PUBLIC SAFETY JUNE, 1952
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ADVERTISER'S INDEX

American Chain & Cable Co.....I.F.C.
Cataphote Corp. 36
Federal Enterprises, Inc.....39
Forbes Stamp Co.....37
Graubards 29
Harley-Davidson Motor Co.....1
Lake Shore Pattern Works.....38
Magno Saf-T Board.....37
National Safety Council.....2-30-31
Traffic Safety Supply Co.....38
U. S. Treasury Dept.....I.B.C.
Weaver Mfg. Co. .....B.C.

America's Traffic Safety Champions

From Page 7

SAFETY ORGANIZATION	
Over 1,000,000	Detroit, Mich.
750,000-1,000,000	Cleveland, Ohio
500,000-750,000	Milwaukee, Wis. Minneapolis, Minn.
350,000-500,000	Denver, Colo. Dallas, Tex. Oakland, Calif.
200,000-350,000	Atlanta, Ga.
100,000-200,000	Pasadena, Calif. Lansing, Mich.
50,000-100,000	Racine, Wis. St. Joseph, Mo.
25,000-50,000	Dubuque, Ia.
10,000-25,000	Garden City, Kans. Wilmette, Ill.

Judges of the contest were Thomas H. MacDonald, commissioner of the U. S. Bureau of Public Roads, chairman; Norman Damon, vice president of the Automotive Safety Foundation; Hal H. Hale, executive secretary of the American Association of State Highway Officials; Earl W. Merritt, vice president of the American Association of Motor Vehicle Administrators; Joseph J. Cavanagh, executive vice president of the Chicago Motor Club and representing the American Automobile Association; George C. Bowers, director of field service, traffic division, International Association of Chiefs of Police; Albert B. Houghton, chairman of the special committee on traffic courts, American Bar Association; Thomas N. Boate, manager of the accident prevention department, Association of Casualty and Surety Companies, and Donald McNeil, vice president of the Institute of Traffic Engineers.

New CBS-NSC Summer Network Show

A new concept of summer network programming will be offered by CBS Radio when it presents "On Sunday Afternoon," a series of 2½-hour musical programs broadcast from many parts of the country, integrated with news flashes, weather and traffic reports, baseball scores and safety messages. The series will make its debut Sunday, June 15 (CBS Radio, 2:30-5 p.m., EDT) and will continue until Labor Day.

Presenting two and a half hours of music by the nation's favorite bands and vocalists, the program is designed to capture the tremendous "mobile" audience of summer drivers and vacationists at the beaches, in parks or home gardens.

Eddie Gallaher, popular Washington, D. C., radio commentator and columnist, will serve as host during all programs. He will be at the helm during the two and a half hours to introduce each section of the program, to discuss and play top records hits, announce the latest baseball scores and switch listeners to the CBS Radio newsroom for last-minute news reports.

"On a Sunday Afternoon" will be presented in association with the National Safety Council, with leading CBS Radio stars giving safety messages stressing a "Safe Sunday Afternoon" through careful driving, swimming safety and forest fire prevention. Every half-hour, local stations all over the country will "cut-in" to broadcast news of their own traffic and weather conditions.

The need for a series of musical programs designed for easy outdoor listening was stressed by Lester Gottlieb, CBS Radio vice president in charge of network programs.

"A recent NBC-CBS survey shows a tremendous amount of radio listening outside the living room, especially during the summer months," said Mr. Gottlieb. "Our new series will be beamed, among other spots, to the 23,500,000 automobile radios, to the 41,000,000 sets outside the living room, to portable sets on beaches and in gardens, to a relaxed, vacationing Sunday afternoon public. This series of light musical programs follows immediately after the classical music on CBS Radio's 'Your Invitation to Music,' so that we will offer in all four hours of music to suit every taste. We believe that in focusing our programs on the summer outdoor audience we will be serving a tremendous and responsive public. We hope also that our series may make a contribution to greater safety on roads and beaches all over the country."

Details of content and talent for the programs will be announced shortly.

Lieutenant Stanley T. Adams Medal of Honor

ONE BITING-COLD FEBRUARY NIGHT, Lieutenant Adams was on a bitterly contested hill near Sesim-ni, Korea. Out of the dark earth the silhouettes of some 150 Communist troops rose up against the skyline. Ordering fixed bayonets, the lieutenant, with only 13 men, leaped up and charged furiously against the overwhelming odds. He was knocked down by a bullet. At least three hand grenades actually bounced off his body before exploding nearby. But when Adams and his squad were through, there were only 50 Communists left on the hill—and they were dead.

"Nobody likes to kill," says Stanley Adams. "Nobody likes war. But today the surest way to invite a war is to be weak. You and I know that twice in the last ten years Americans have let their guard down. And the Philippine and Korean graveyards are filled with men who paid the price for it.

"Please don't make that tragic mistake again. Remember that in the world today, *peace is only for the strong*. Help make your country and your armed services stronger still—by buying more . . . and more . . . and more U. S. Defense Bonds. Put *your* bond-power behind *our* fire-power, *now*—and together we'll keep America at peace!"

* * *

Remember that when you're buying bonds for national defense, you're also building a personal reserve of cash savings. Remember, too, that if you don't save *regularly*, you generally don't save at all. So sign up today in the Payroll Savings Plan where you work, or the Bond-A-Month Plan where you bank. For your country's security, and your own, buy U. S. Defense Bonds now!

Peace is for the strong... Buy U. S. Defense Bonds now!

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the facts warrant action!

11,500 DEAD... $823,500,000 loss from FIRE in 1951

. . . is estimate of the National Fire Protection Association

37,300 KILLED... 1,300,000 INJURED... and $3,000,000,000 economic loss as the result of MOTOR VEHICLE ACCIDENTS in 1951

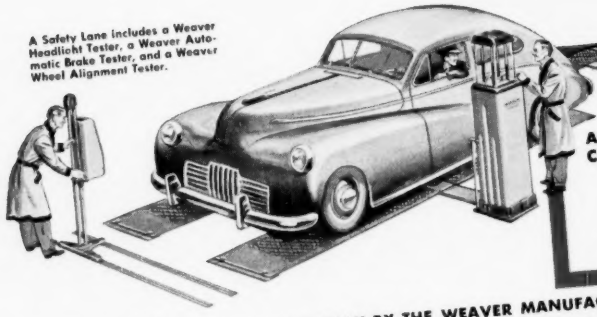
. . . is estimate of the National Safety Council

The automobile accident loss in America is several times as great as the annual fire loss — yet what's being done about it?

Every community supports a program to hold fire losses to a minimum. The cost of purchasing and operating modern fire fighting equipment is accepted by the public . . . Municipalities can and should act to also reduce traffic tragedy.

In New Jersey, with a state-owned-and-operated system of periodic inspection of cars and trucks on Weaver Safety Lane Equipment, traffic deaths were cut more than 30% the first year . . . Cities using Safety Lanes also report gratifying reductions in traffic accidents.

An automobile safety inspection program, with its extensive savings in property, life and injury, can be instituted and maintained on an entirely self-amortizing basis by a city or state. Consult Weaver on HOW YOU CAN DO IT in your city or state.



A Safety Lane includes a Weaver Headlight Tester, a Weaver Automatic Brake Tester, and a Weaver Wheel Alignment Tester.

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ACT NOW TO HAVE ALL CARS OFFICIALLY CHECKED AT REGULAR INTERVALS ON

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Leaders in Automotive Safety Equipment for Over 25 Years